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All communications intended for publication by the SIERRA CLUB, and all correspondence concerning such publication, should be addressed to the Editor, Elliott McAllister, Room 302 Mills Building, San Francisco, California.

Correspondence concerning the distribution and sale of the publications of the Club, and concerning its business generally, should be addressed to the Secretary of the Sierra Club, Room 302 Mills Building, San Francisco, California.





GROUSE VALLEY, MIDDLE FORK OF KING'S RIVER.
SIERRA NEVADA MOUNTAINS.

John A. S. S. S.

Thompson

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SIERRA CLUB BULLETIN.

VOL. VII.

SAN FRANCISCO, JANUARY, 1909.

No. I

THE HIGH MOUNTAIN ROUTE BETWEEN YOSEMITE AND THE KING'S RIVER CAÑON.

BY JOSEPH N. LE CONTE.

The southern High Sierra is, from a scenic standpoint, the finest part of the range. As one passes southward from Mount Lyell, the Main Crest becomes progressively higher, the river cañons deeper, and the area above the timber line broader and more savagely sculptured, till the climax is reached at the head of King's River. To find a route through the entire length of this rugged region has been the ambition of many a lover of the High Sierra. Such a route, if practicable for pack animals, would furnish the most delightful outing imaginable, for it would show in a few weeks the entire length of the finest portion of the Main Crest, and place one within striking distance of all the great summits, including Lyell, Ritter, Red Slate, Abbott, Humphreys, Darwin, Goddard, the Palisades, Pinchot, Williamson, and Whitney, a distance of over one hundred miles in an air line.

The first who attempted an exploration of the southern High Sierra were Professor William H. Brewer and his assistants, of the California Geological Survey in 1864-65. Although they crossed some of the highest parts of the range, and succeeded in getting a very general idea of this great region, their work was largely reconnaissance, and not of a detailed nature.*

* California Geological Survey, Vol. I, Geology, pp. 364-437.

Soon after, Mr. John Muir explored many of the upper cañons of the San Joaquin and King's rivers. His expeditions were made for the most part alone, and with a knapsack, but he made no attempt to work out an animal route through the higher portions.

Mr. Theodore Solomons was the first who started a clearly organized attack upon this unmapped region with the single object in view of finding a practicable animal route through it parallel with the crest line, and as near to it as possible. In 1892 he pushed southward from the Tuolumne Meadows alone, and made his way as far as the valley of Mono Creek, when lack of provisions forced him to return.*

In 1894, in company with Mr. Bierce, he worked still further, reaching the basin of Bear Creek. He climbed and named the Seven Gables, and was soon after forced by a heavy snow-storm to abandon his entire outfit, and make his escape on foot to the settlements near Pine Ridge.†

Again, in 1895, with Mr. Ernest Bonner, he explored the Recesses of Mono Creek, made his way up the San Joaquin, worked through the Evolution Group, ascended Mount Goddard, and, seeing from the summit of that dominating point the great difficulty of getting his animals farther south without much loss of time, again abandoned his outfit, and knapsacked it down the cañons of Disappearing and Goddard creeks to Simpson Meadow and the King's River Cañon.‡ By this means he made his way through, but did not find an animal route across the basin of King's River, and also avoided most of the high region at its head. We owe much to Mr. Solomons for his splendid work in this part of the High Sierra, and doubtless the problem of the "High Mountain Route" would have been solved long ago had he been able to give a few more years of his untiring energy to the search.

* SIERRA CLUB BULLETIN, Vol. I, No. 3, p. 61.

† SIERRA CLUB BULLETIN, Vol. I, No. 6, p. 221.

‡ SIERRA CLUB BULLETIN, Vol. I, No. 7, "Notes and Correspondence," p. 287.

The writer's own interest in the region dates from 1898, when, together with Mr. C. L. Cory, he followed Mr. Solomons' route to Mount Goddard, and, finding the way blocked to the south, crossed the Goddard Divide at Hell-for-Sure Pass, and pioneered a way to Crown Valley, then to Tehipite, Simpson Meadow, and the King's River Cañon.* At the time this was the highest route by which animals had been taken from Yosemite to the King's River Cañon, and for ten years, or till the summer just passed, this record stood. During that time many others have passed over it: Dr. Fairbanks and party in 1901, Messrs. Pike and Symmes in 1902, and several others in 1903. The writer, with Mr. G. K. Gilbert, went over the identical route in 1904.† But it will be noticed that the southern part of the route avoids entirely the High Sierra at the very point where it is the most magnificent, and therefore it cannot be called the true High Mountain Route, but rather the Middle Route through the southern Sierra.

It was obviously useless in the short space of a summer's vacation to work through at once and without any previous knowledge a route in so rough and intricate a region as the head of King's River. Accordingly the writer took every opportunity after 1898 to work out bits of the route, and piece them together. In 1902 a trip was made across the Middle Fork of King's River to Split Mountain.‡ In 1903 the North Palisade was ascended, and a very fair idea of the entire Middle Fork basin obtained.§ In 1904 the Evolution Group and the Goddard Divide east of Mount Goddard were explored.|| In 1906, a party of the Sierra Club Outing passed up the south branch of Woods' Creek and crossed Glenn Pass, proving that portion to be practicable for animals.¶ Also, in 1906, the writer and party went up the north branch of Woods' Creek, and from the summit of

* SIERRA CLUB BULLETIN, Vol. II, No. 3, p. 249.

† SIERRA CLUB BULLETIN, Vol. V, No. 3, p. 153.

‡ SIERRA CLUB BULLETIN, Vol. IV, No. 3, p. 177.

§ SIERRA CLUB BULLETIN, Vol. IV, No. 4, p. 253.

|| SIERRA CLUB BULLETIN, Vol. V, No. 3, p. 153.

¶ SIERRA CLUB BULLETIN, Vol. VI, No. 2, p. 100.

Mount Pinchot saw a pass to the northward leading to the head of the South Fork of King's River. Again, in 1906, we pushed up the Middle Fork of King's River to Grouse Valley, and showed conclusively that the upper cañon was impassable for animals. Finally, in 1907, George R. Davis and party, of the United States Geological Survey, took a pack train over the Goddard Divide at a time when the higher portions were covered with snow, and worked out of the Middle Fork Basin by Cartridge Creek. This closed the last important gap, and in 1908 the writer, with Mr. James Hutchinson and Mr. Duncan McDuffie, determined to attempt the through trip.

Roughly speaking, our plan was to start from the Tuolumne Meadows, cross Donohue Pass to Red's Meadow, thence to Fish Creek and over the Lone Indian trail to Mono Creek. We hoped to ascend Mount Abbott, and then take the regular trail to Bear Creek, cut across westerly to Blaney Meadows, and up the San Joaquin River and Evolution Creek to the Goddard Divide; thence down the Middle Fork of King's River to its confluence with Palisade Creek, up the latter and over the divide to Cartridge Creek. From this point the old sheep trail was to be made use of as far as the head of the South Fork of King's River, and the Pinchot Pass used to reach the source of Woods' Creek, which could then be followed to Glenn Pass and the head of Bubbs' Creek. Such was the route mapped out, though we hoped to make side trips from it, and if possible to follow some higher routes than the ones proposed.

In the following account I shall describe rather minutely the route pursued. I trust the reader will pardon this somewhat detailed description, remembering that it is written with a view to helping others follow our track through this wild region, rather than to give a narrative of the trip itself.

The start was made from Yosemite on the morning of July 1, 1908. Our outfit was packed on three of

Kanawyer's best mountain mules. The saddles were new and in perfect order, with new cinches, straps, and ropes throughout. Two packs were made up in heavy canvas and leather kayacks, and one, the kitchen outfit, in light but strong canvas-covered boxes. The packs at the start weighed about 175 pounds each. No saddle animals were used.

We took the Nevada Falls trail past Clouds Rest and camped the first night in a beautiful group of firs at the base of Sunrise Ridge. Next day found us on the familiar Sunrise trail, and by noon we were lunching at the old Sierra Club camp opposite Lambert's Dome. Here we remained till next morning, and then passed on up the Tuolumne Meadows to the base of Mount Lyell, and over the rough trail to the timber line, where noon of the third day found us camped at 9,600 feet near the base of Donohue Pass. We were obliged to stop over during the afternoon in order to take advantage of the hard snow on the summit in the early morning. The trail to Donohue Pass is rough in places, but it was comparatively free from snow by July 4, so we experienced no difficulty in reaching the top by 8:30 a. m., and our first pass was crossed at 11,200 feet. Descending into Rush Creek Basin on the Eastern Slope was bad, on account of soft snow. One of our mules broke through and had to be unpacked, but once at the bottom of the first steep jump-off, we got out of the snow, picked up the trail, and worked southward across Rush Creek. The views of Mount Ritter here were magnificent. I doubt if in the whole Sierra there is a more noble mountain than this, standing so high and clear-cut above everything around it, and so brilliantly contrasting black rock and snow. Wherever it is visible, Ritter fascinates the beholder.

The Main Crest was recrossed, and Thousand Island Lake reached by noon, and amid swarms of mosquitoes we searched for a refuge from their vicious attacks, but finally made camp on a peninsula in the lake, where a

breeze off the water gave us comparative peace. In the afternoon some time was lost at the outlet of the lake on account of false monuments, and more time was lost further down the San Joaquin Cañon by missing the best trail. But at last the Agnew trail was found, and we made good time, reaching Agnew Meadow by 5:30, after a hard day's work.

The magnificent range of Mount Ritter and the Minarets does not lie upon the Main Crest, but on a spur embraced by two branches of the San Joaquin. The Main Crest lies to the east of that spur, and is relatively low and insignificant. It is largely forest covered, and Mammoth Pass, a few miles south, is the lowest pass in the southern Sierra. Our route in this part followed within a few miles of the crest line.

Mosquitoes at Agnew made life a misery, and we were glad to get off early next morning, and move on to Red's Meadow, where we found a respite from these little pests. We stopped there all day of the 5th, and enjoyed the luxury of a bath in the splendid hot spring. We also met miners and campers, and were enabled to send out letters for the last time. Red's Meadow is one of the most beautiful camping spots in the Sierra. The surrounding region is full of interest; Mount Ritter and the Minarets to the northwest, the wonderful basaltic mass of the Devil's Post Pile near by, the Rainbow Fall, the finest in the Sierra outside of Yosemite and Hetch-Hetchy, within a mile, and curious and interesting volcanic phenomena all about. Add to this the abundant fish in the streams, and what more enjoyable spot can be imagined?

Early on the morning of the 6th we were on the march, and took the Mammoth trail eastward to the summit of the pass, then struck off southward on the upper Fish Creek trail, and followed it to the brink of Fish Valley. Here the trail drops abruptly 2,000 feet into the deep valley, so we abandoned it, and for the first time struck off into the wilderness, with the idea of working down



MT. RITTER AND BANNER PEAK FROM ISLAND PASS.

From photograph by J. N. Le Conte, 1907.



THE SUMMIT OF MT. ABBOTT FROM THE NORTH.

From photograph by J. N. Le Conte, 1908.

into Fish Creek somewhere far above the valley proper. For a couple of miles we worked east along the brink of the cañon. Rough slopes forced us down the sides from time to time, and with great difficulty we got the mules down some rocky places covered with manzanita chaparral. After descending several bad places, it became evident that return was practically impossible, so we struck straight down that fearful slope through thick manzanita every step of the way, and over all sorts and sizes of boulders. It was unwise to risk our animals at the very outset, but once started down there was no help for it. By noon the bottom was reached, luckily without accident, and we lunched by a small rivulet at the edge of an aspen thicket. In the afternoon we forced our animals through the aspens toward the creek, and then cut the rest of the way to the stream with the ax. Luckily, the creek was fordable, and on the west bank we found an old sheep trail. This led directly up the creek, and by 6 p. m. we were in camp at the beautiful Peninsula Meadow, a perfect gem of a place.

Next morning we went on up the creek to the point where the Lone Indian trail leaves the main Fish Creek to climb out of the west side of the cañon. Here we unpacked, and taking a little lunch in the knapsack, went on up the main stream to look for a pass at its head. Evidences of an old sheep trail could be discerned from time to time, though the way was very rough. Several beautiful large meadows were passed, with steep rocky gorges between, till finally the cañon opened out into a large basin at the timber line, lake dotted and surrounded by towering peaks, among which were Red Slate and Red-and-White Peak. McDuffie and I stopped at the highest lake, and then returned, searching carefully for the best route down the cañon.

Hutchinson went on over the shoulder of Red-and-White Peak, still searching for a possible pass. On his return to camp that night he reported signs of an old sheep pass to the west of Red-and-White, but that it

led toward the west into the cañon of the North Fork of Mono Creek, and not toward Mount Abbott and the head of the main Mono Creek, so we decided to use the Lone Indian trail, as first planned.

This was accordingly followed next morning, and after losing some time hunting out the trail near a large lake, we crossed the divide between Fish and Mono creeks by a good pass at about 11,500 feet. A fine, broad valley dotted with meadows and sprinkled with thin timber led away to the south. This we followed mile after mile, till about noon. Threatening thunderstorms delayed us after lunch, and while staking the animals the discovery was made that our creek pitched over a 1,000-foot cliff at the end of the meadow into a deep cañon below. The trail was soon found, climbing over a low ridge to the left, and then it led us by many windings and zig-zags down that tremendous cañon wall to a splendid green meadow below, where we made one of our most delightful camps at its lower end in a fine grove of tamarack pine.

We were now on the North Fork of Mono Creek, the same which we would have reached had we crossed the rough pass near Red-and-White Peak. A good trail was blazed down its east side to Mono Creek, where we struck into the main Mono trail early next morning. This we followed up Mono Creek till noon, finally camping in a wretched place near the mouth of the Third Recess. The country was overrun with cattle, and much overstocked. All the feed was eaten down to the roots, and our poor mules fared badly.

We intended to make a try at Mount Abbott next morning, and as the weather was threatening and as many cattle were about we put up our little tent to protect our outfit. After a hasty lunch we started up the creek with the intention of locating Mount Abbott, if possible. Two or three miles above camp the Fourth Recess was reached, a splendid, rocky gorge extending back into the very heart of the wildest mountains. Just

within its gateway a sheer cliff 1,000 feet high stretched across the gorge from wall to wall, and over it the creek tumbled in a mass of snowy foam. As our trail climbed higher on the opposite slope of the main cañon we could look directly up the Recess to where a magnificent snowy peak towered at its head. This seemed the highest point about, and might be Mount Abbott, though its general form did not seem to be that of the Bear Creek giant as viewed from Red Slate and others. We soon passed the Fourth Recess and pushed on till about 4 p. m., when the crest of the Sierra was reached at the Mono Creek Pass, about 12,000 feet above sea level. Here Mount Abbott burst upon our delighted vision, towering in sheer cliffs high above the snowfields of the Eastern Slope,—absolutely inaccessible from that side. The peak at the head of the Fourth Recess was not in sight, and though quite certain now that it could not be the true Mount Abbott, we decided to ascend it first, to get a better idea of the country. So we descended to camp, and went to bed early, with a hard day behind us and a still harder one in prospect.

By daybreak of the 10th, we were marching up the cañon of Mono Creek with lunch, cameras, and rope. At the Fourth Recess we left the main stream and turned up the gorge to the south to a large lake at the base of the great cliff that blocked the mouth of the Recess. Though it was impossible to climb up alongside the falls, we managed by scrambling up the cañon wall to the right to get around the end of the cliff, and descend to the shelf at the top of the fall. Here the Recess opened out into a great amphitheatre at the base of our peak. The eastern side was walled in by the Main Crest,—a continuous cliff fringed with spires. The western side rose in jagged peaks striped with snow. The floor was covered with unbroken snowfields or frozen lakes, while the peak we were about to try rose high into the black-blue sky above a small residual glacier. We examined the front of the mountain with our field glasses,

and decided upon a tongue of rock reaching down almost to the bergschrund of the glacier. Our route lay directly across the little glacier, an easy grade at first, but steeper and steeper as we ascended. The bergschrund was bridged at one point directly below the rock tongue, but above the crevasse the ice was so steep and hard as to necessitate step-cutting. We were ill-equipped for this sort of work, and therefore made the great mistake of changing our point of attack to a spur or cliff further to the right, which descended below the bergschrund. After considerable difficulty we got from the snow to this rock, and started slowly up. The climbing became more and more difficult. Sheer cliffs ahead forced us to the left again, but only to come up against the solid rock-front at last. We were obliged to retreat, and by constant use of the rope got back to the snow again above the crevasse. We tried it for awhile on the rocks near the edge of the main snow face, and after ascending some 300 or 400 feet were brought to a stop again. The cliffs at the head of the snowfield were too precipitous to attempt. So after wasting upwards of two hours of dangerous climbing on the rocks, we were finally forced to work straight across the steep, glassy snow slope to the tongue of rocks which we had originally chosen. The prospect of a slide down the snow was unpleasant, to say the least, on account of the crevasse below, but we made it safely over and took to the rocks again. There was no serious trouble after this. Some care was necessary in places to avoid loose rocks, but by 12 M. the last trouble was over, and we climbed out on the crest.

The summit of the peak was a large flat area surrounded on all sides by frightful precipices. That on the left fell off toward the Eastern Slope, that to the right or west into the Second Recess of Mono Creek, at least 1,500 feet vertical. To the south the summit of Mount Abbott towered 500 feet above us, and seemingly so near as to be within stone's throw. Without a moment's delay we hurried towards it. Our mesa narrowed more

and more, and soon became a knife-edge of the Main Crest. Still we climbed along it, now descending slightly, till finally a little spire was reached and beyond was impossible. Directly in front the knife-edge dropped off abruptly 500 feet into a notch, and on the other side was a clear cliff of 1,000 feet: the north face of Mount Abbott. A more absolute failure could not be imagined. We could not cross the chasm without wings, and could not even descend from our mountain by any other route than the one chosen for the ascent! We did not linger long. Though the scene was superb, it hurt to look at it. We ate our lunch at the end of the knife-edge, and started back. The snow was softer on the return, and we were enabled to slide down and shoot the snow bridge in safety. It was a long, weary tramp back to camp through snow softened by the hot sun, and lower down through the thick brush of the cañon side. Arrived in camp at 4:30, there was still time to move to better feed, so we hurried on the packs in about an hour and pushed five miles down Mono Creek to a beautiful little meadow at the mouth of the Second Recess.

It was hard, very hard, to get up next morning, so we were lazy and did not get off till 8. There seemed to be no way to cross from Mono to Bear Creek by any of the great recesses, and we therefore tramped on down Mono Creek to pick up the main trail which crosses the divide further to the west. In Vermilion Valley we found the flat overrun with cattle, but saw no herders. Thunder caps commenced to gather at 9, and by noon it began to rain. We crossed Mono Creek by a good ford, and climbed the divide to the south. We missed the Bear Creek trail at first, but pushed on up the ridge, hoping to intersect it. About 3 in the afternoon a furious thunderstorm broke, but it lasted only a few minutes, and soon after we had made connection with the Bear Creek trail. By evening the top of the divide was reached and we camped at a small meadow just below the summit. During most of the night it rained, but we slept soundly under our rubber blankets.

Next morning we followed the sheep trail down into the cañon of Bear Creek, and followed that large stream up to the confluence of Hilgard Creek. Here we abandoned the trail and struck out eastward up Hilgard Creek into the wilderness of mountains in the upper Bear Creek Basin. Slowly we worked our way up the stream past several large meadows, and over several very rough places. At one point the creek flowed in a box cañon, and a way had to be found over the high mountain to the right. At another the animals had to be driven up the bed of the creek itself. At the timber line we camped just at the base of Mount Hilgard, and made preparations for another try at Mount Abbott, this time on the west side.

On the morning of July 13, we made our way up the last tributary of Hilgard Creek, carrying only lunch, camera, and rope. For the first hour the way was up a rocky stairway in the creek bed to the entrance of a huge amphitheatre at the base of the Main Crest. A large lake nearly two miles long lay before us. To the left towered the pyramidal mass of Mount Gabb, with Hilgard just behind. In front was the serrated crest of Mount Abbott, guarded along the whole front by a precipitous wall; to the right, a wilderness of peaks, including among hosts of others, Bear Creek Spire. At once we made our way around the south side of the lake, climbing for the most part over huge talus fragments. This consumed much time, and we were an hour reaching the head of the lake. Here we stopped to examine the front of the mountain, and could see but little chance of climbing the side facing us except by a chimney which led to the crest of the ridge about a quarter of a mile south of the summit. A patch of snow in the notch on top seemed to give promise of fairly good climbing along the knife-edge, so we hesitated no longer but set out for the chimney. The climbing was easy all the way up, and there was no danger whatever except perhaps from loose rocks. In about two hours we stood

up on the Main Crest again, just to the south of the summit of Mount Abbott. The view in every direction was glorious,—the terrible drop-off of the eastern slope with the desert ranges of the Great Basin on one side, and the wilderness of practically unexplored Sierras on the other. I set up my camera, and took a round of pictures, for a single glance along the crest to the north made it evident that this was probably the nearest that any of us would get to the summit of Mount Abbott. Then we worked along the most awful knife-edge imaginable for fifty yards; that was enough. Huge blocks as large as houses were balanced on the thin edge, and deep chasms gashed it down like the teeth of a saw. A glance was enough for me; I went back to the top of the chimney and lay down in the warm sunshine, while waiting for Hutchinson, who had gone a little further, and was examining the summit with his glasses. It was no use. We started down again, and made our way without trouble to the base of the mountain.

It was still early in the day. We would not give up till every side of the mountain had been examined, so we worked along the base of the western cliff till directly below the summit. Here the wall was somewhat more broken, and offered good rock climbing. Higher up the way narrowed to a chimney, but still the footing was good. We took plenty of time and gradually worked up to within 100 feet of the top. Then the rope was brought into play, and, after two or three ugly places, we finally climbed over the edge once more, this time at the extreme summit, and Mount Abbott was conquered.

There was no sign of any sort to show that the mountain had previously been ascended, in fact, I think it certain that no mountaineer had ever before been nearer than the peak of the Seven Gables, six miles to the southwest. We built a good, solid monument, and left therein a record of the ascent. We rested on the top an hour, when the lateness of the hour warned us to make all haste.

At the first part of the descent the rope was used again, but lower down we were enabled to continue without it. Hutchinson and I followed the Bear Creek Divide along to the gap between Abbott and Gabb and found there a possibility in the way of a pass between the Second Recess of Mono Creek and the head of Bear Creek. It was very rough, but if practicable would make a great cut-off in the High Mountain Route. We then passed around the north side of the lake and back to camp. It was still early enough to move down to better feed, so we packed up at once and changed camp to a meadow about three miles below.

Next morning we followed Hilgard Creek down to Bear Creek, and then up the latter to the base of the Seven Gables. Here we crossed the main stream and turned to the west, following an old sheep trail through thinly timbered country. At a fine, large meadow we lost it, but pushed on southwesterly without a trail, finally reaching an island-dotted lake above the timber line. To our left was Mount Senger, with a gap in the ridge to the right. We made toward it, and soon picked up the sheep trail again at the summit, which was about 11,300 feet above the sea. The view was now down into the cañon of the South Fork of the San Joaquin, and over the far-distant forest belt to the south. Our rocky trail led down past four lakes and numerous meadows to the brink of the cañon. Here a hasty lunch was prepared, and we were off again following down the east side of the creek. The way was dreadfully rough in boulders and manzanita brush, but we finally reached the bottom at the Blaney Meadows. At the Hot Spring we met John Shipp and one of his herders, the first people we had seen since leaving Red's Meadow, and from them we learned that we should have taken the *west* side of the creek during the last descent, and avoided much of the trouble we experienced.

The Hot Spring Camp is delightfully located near the river at the edge of the beautiful Blaney Meadow, and



MT. ABBOTT FROM MONO CREEK PASS.
From photograph from the U. S. Geological Survey, G. K. Gilbert, 1904.



MT. HUXLEY, EVOLUTION GROUP.
From photograph by J. N. Le Conte, 1908.

amidst scenery more picturesque than we had been accustomed to amongst the heights. Altogether the prospect was so pleasing, that we decided to stop over a day here for resting and clothes washing. Hutchinson celebrated with a splendid dinner, to which he invited our newly made acquaintances, and topped it off with a whisky gelatine most artistically concocted.

Next day we enjoyed the luxury of getting up late; washed clothes in the Hot Spring, most modern of conveniences, and enjoyed to the fullest extent a thorough "loaf."

On the 16th we took the good trail up the river, crossed Piute Branch, and made a half-day's trip to the mouth of Evolution Creek, there camping for the night. On the 17th we took the sheep trail up Evolution Creek. It worked up the benches to the right of the fall to a large meadow, then crossed the creek at the head of the meadow, and continued up the north side. It passed through a succession of exquisite meadows to the amphitheatre at the base of Hermit Rock. From this point to Evolution Lake, under the shadow of Mount Darwin, there is practically no trail, and the going is a little rough, but we experienced no delay and made camp at the north end of the beautiful lake a little after noon. The afternoon was given over to resting and getting ready for the hard day that the morrow had in store.

The Goddard Divide was now before us,—the key to the whole situation. If we failed in crossing it our plan of a High Mountain Route failed, for the great spurs and cañons between Mount Goddard and Woodworth Mountain formed an impassable barrier to the west of the Middle Fork of King's River, which does of necessity force the traveler as far to the west as Tehipite Valley. The only possible chance of avoiding this awful chaos of peaks was to pass to the east of it, and make use of a gap near the junction of the Goddard Divide with the Main Crest. To be sure the Geological Survey had crossed it in 1907, but at a time when everything

above 10,000 feet was under snow. I myself had examined the gap when free of snow in 1904, and at that time considered it impassable to pack animals on the south side. It was clear, therefore, that the success of our trip depended on the next day's work.

The view from our camp was magnificent, especially in the evening, when the rosy glow of sunset spread over the noble peaks of the Evolution Group, themselves reflected in the still waters of the lake. I went to bed early, but woke several times to look out upon the same scene, bathed in the silvery light of the moon.

On the morning of the 18th we were stirring by earliest dawn, and long before the sun rose over the battlements of Mount Darwin were on the way. We passed around the east side of Evolution Lake, and at its head crossed to the west side of the creek. The traveling was easy up Evolution Creek nearly all the way to the Goddard Divide. We passed around the base of majestic Mount Huxley, and at the outlet of the Crystal Lakes crossed the creek again, and kept around the north side of the lakes. The gap was clearly in view, and we took our pack train straight up to it. One bad, rocky place was encountered, and soft snow bogged one animal, but the top of the divide was reached by about 9 A. M. We were 12,000 feet above sea level. Down the other side was an awful looking gorge in the black metamorphic rock, partly choked with snow. But there was no time to consider the prospect. We went straight at it, and took our mules right over the talus piles. They did splendidly, and we had cause to be thankful that they were so well used to the roughest of mountain work. We passed down into the rocky amphitheatre and around the south side of a little black lake, the extreme source of the Middle Fork of King's River. The walls and the slopes of the large talus then began to close in, and we were forced to take our animals down the bed of the creek between them. It was a critical place, for a fall six feet high in the stream might at this

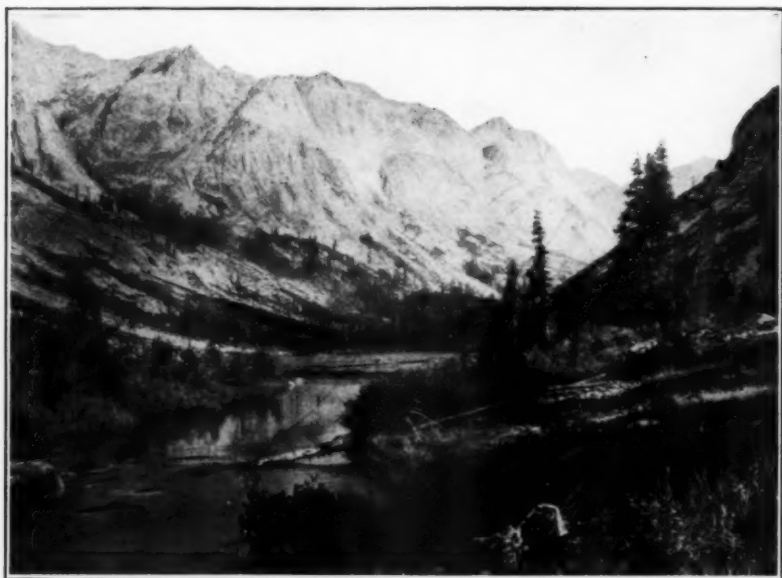


VIEW SOUTH FROM THE GODDARD DIVIDE.
From photograph by J. N. Le Conte, 1908.



LOOKING DOWN UPON GROUSE MEADOW.

From photograph by J. S. Hutchinson, 1908.



LOOKING UP GROUSE VALLEY.

From photograph by J. S. Hutchinson, 1908.

place have put an end to our trip. By 11 A. M. we had successfully negotiated the first mile of the descent, and stopped to rest and eat a few crackers and prunes. Then on down the savage gorge. Soon the stream became entirely impracticable, and we were forced to climb out on the right (south) side over a little gap two or three hundred feet above. Here a stupendous panorama of the whole head of the Middle Fork burst upon us. We could look directly down the main cañon. Straight across the basin rose the spires of the North Palisades, and further to the south the wilderness of Cartridge Creek. The creek we had just abandoned dropped off in waterfalls hundreds of feet into the head of the cañon, and directly below us were cliffs, so there was nothing to do but to work off horizontally across the talus slopes, and look for a way down. By the best sort of luck this was accomplished, and by noon our mules were resting their bleeding feet in the little meadows near the stream again. We thought our troubles over, and so started at once down the east bank of the river, but were soon stopped by a sheer cliff 200 feet high stretching clear across the cañon. We had to retreat, cross the river, climb high up the other side, and descend through a chute to the base of the cliff. Again we were obliged to cross, and so it went, first on one side and then on the other, of the foaming torrent, often crossing right in the talus piles, taking greater and greater chances with our animals, till about 4 P. M. we came to a meadow at the foot of the steep descent, and camped in a beautiful grove of tamarack pine. We were tired, and soaking wet, but happy in having accomplished our principal object.

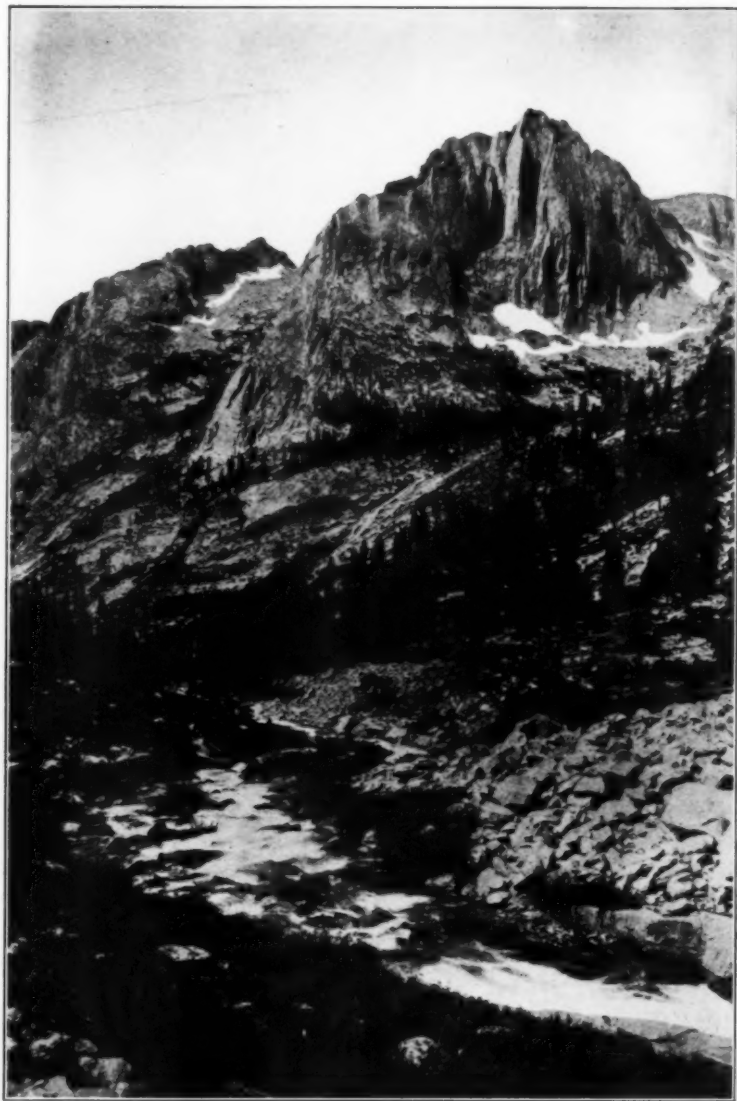
The next day's trip was a most glorious one. The cañon of the Middle Fork opened out before us, and the traveling was easy. The west side rose in gigantic cliffs three and four thousand feet high. One precipice of clean white granite towered directly above camp. Lower down a great mass of black slate rose like a watch tower. First we descended a bushy slope to a beautiful meadow,

and then on down the river to the mouth of Dusy Branch. Here we picked up the sheep trail which crosses the Sierras north of the Palisades, and made good time on down the cañon. Gradually it widened more and more, the walls rose to still more imposing heights, till suddenly we emerged into the beautiful Grouse Valley, an emerald in a setting of granite, through which the river swung in great loops. At the lower end we made camp at noon.

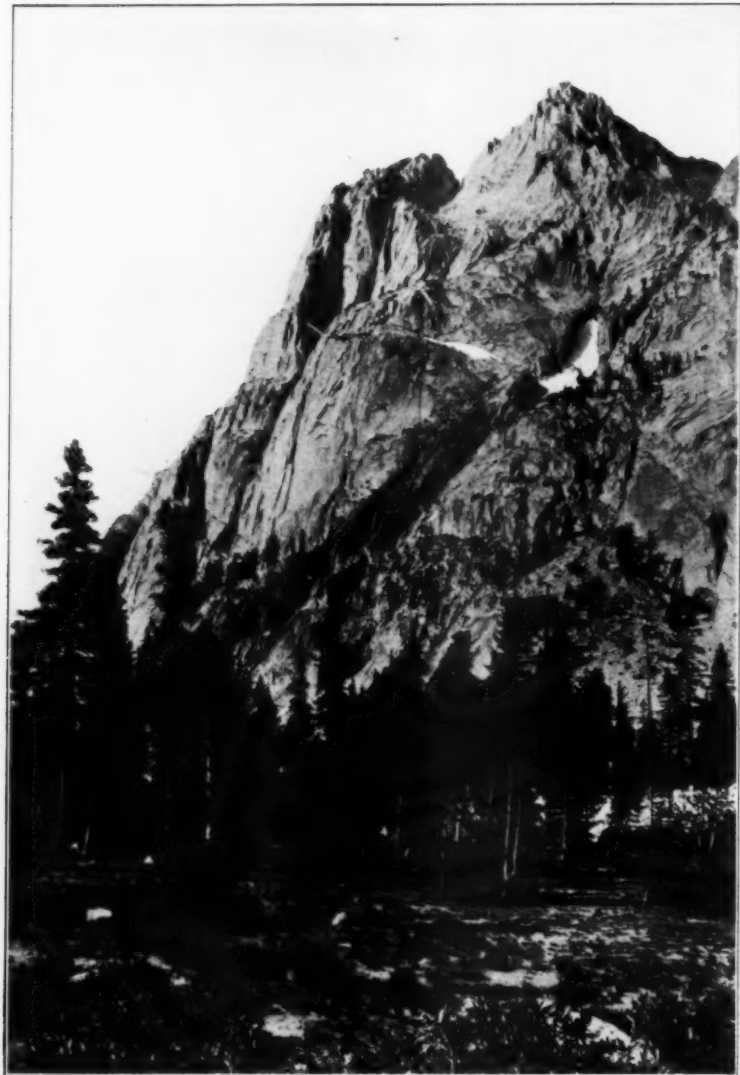
Grouse Valley is one of the most beautiful, if not the most beautiful, of high-mountain meadows. Its chief charm lies in its absolute wildness. Not an average of one party in three years penetrates this fastness, for there is no trail leading into it from the west. The river cañon down to the mouth of Cartridge Creek is exceptionally rugged, and impassable for pack animals, in fact I know of but two parties who have knapsacked through it. We spent the whole of the afternoon and part of next morning with the glorious scene before us, and then all unwillingly took our way up Palisade Creek, the main eastern tributary. There was just enough of a track through this great glacial valley to show that a sheep man or two had been up it in the early days. We encountered some rough talus, but got through all right as far as the mouth of Cataract Creek, camping again just after noon about a half mile below Glacier Brook.

On the morning of the 21st we set out to explore the head of the creek. We now had the difficult problem before us of getting out of the Middle Fork Basin. There were two possible ways, one up Palisade Creek to its head, and over the Monarch Divide to the South Fork of King's River, and the other up Cataract Creek to Cartridge Creek, from which a sheep trail led to the South Fork. The former lay nearer the crest, so we determined to explore that first.

Soon after leaving camp the valley became choked with brush. We fought through this for upwards of a mile, and then encountered heavy talus. We spent much time searching for an animal route through this, but with



CLIFFS IN THE CAÑON OF THE MIDDLE FORK OF KING'S RIVER.
From photograph by J. N. Le Conte, 1908.



CLIFFS IN THE CAÑON OF THE MIDDLE FORK OF KING'S RIVER.

From photograph by J. N. Le Conte, 1908.

only partial success. Higher up the creek plunged over a bluff about 1,000 feet high. Several chutes or broad chimneys cleft this near the east wall of the cañon. Hutchinson took one to the left, and McDuffie and I one nearer the fall. In a very short time ours proved to be impassable for animals, but we continued on to the top of the fall, hoping to hear better results from our companion. However, his success had been no better than ours, though he had partially examined another chute still further to the left that seemed promising. Leaving this doubtful part of the route to the return, we pushed on up the creek, past two large lakes, and toward the Monarch Divide which towered at its head. We found the hoped-for pass and made our way to the top, though the going was very rough.

Down the other side it dropped off in an easy slope of boulders and sand, and we could look straight south for miles down the basin at the source of the South Fork of King's River, all easy traveling through sand and thin timber, so after a hasty bite of something to eat we turned our attention again to the terrible gorge of Palisade Creek, and began to work out the way foot by foot back to camp. From the crest of the pass for the first mile we monumented every step of the way over a continuous slope of talus. It was dreadfully rough, worse, it seemed to me, than the Goddard Divide, but still possible. Around the lakes we worked out a way, though one bad cliff worried us. Then at the edge of the great cliff we started a careful search for a passable chute. McDuffie and I went down the one Hutchinson said had looked promising, but found it choked with such awful talus that it was all a man afoot cared to tackle. The talus and brush below the cliff seemed worse than in the morning, so we gave it up as a hopeless job and returned to camp about 6 P. M. Hutchinson came in two hours later, with no definite results. So the day's work proved a failure, though I still think that with sufficient time and patience a route could be worked out past that cliff.

There was no use exploring out a route up Cataract Creek in advance of the packs, for there was no other way out of the dilemma, and we knew that the Geological Survey party had gotten out by that route over the snow in 1907. So we got an early start and went at it. There was no trouble whatever for the first couple of miles, but above that we got into the talus. We avoided some of this by going over the snow, but got into it again, took pretty desperate chances with our mules, and had to unpack one that fell amongst the rocks. Above this rough place the going was easier to the base of the pass, which now rose 1,200 feet above us in long slopes of talus and then of snow. We could see no possible way of crossing the talus, so camped at the last little patch of green, cooked a good lunch, and started up the pass in the afternoon to explore. The first 500-foot rise was talus; from there to the top, 700 feet of unbroken snow. If we could only get our mules up to the snow, the rest seemed comparatively easy, so while Hutchinson went on up to the top to see what the other side was like, I searched out and monumented a way over the rocks down toward camp. By keeping in the smaller rocks I found a passable route to within 150 yards of the meadow, but across this strip of huge talus, a trail must be built. McDuffie came up from camp, and he and I went to work rolling out boulders and filling in holes. Hutchinson joined us in a short time, and we worked steadily most of the afternoon, finally completing a track across the rocks.

Of all our high camps this was the most glorious. Straight out to the east towered the gigantic pile of the Palisades, and between them and us the cañon of Palisade Creek cut profoundly into the granite. Behind rose the pyramid of Observation Peak, and near it our snowy pass, while to the right and left arose scores of unnamed points—the heart of the Middle Fork Sierra. We sat for a long time on the rocks below camp, and watched the brilliant light on the Palisades fade into the rosy alpine glow, and gradually into the blackness of night.

At the break of day we were up, and soon started across our newly made trail. We took it very slowly and crossed without accident. Then up the loose stuff to the snow. This was in fine condition and we experienced no further trouble in getting to the top, some 11,700 feet above sea level. Down the other side led off a branch of Cartridge Creek. It was all easy traveling at first, but got rougher and rougher. There was no backing out now, however, and we simply tore our way down that cañon through brush and over rocks to the main Cartridge Creek, which was reached without an accident, though our animals' feet were pretty badly cut up on the slate talus. Now we struck a trail again, and hurried up Cartridge Creek, reaching Lake Marion at 5 P. M.

The trip the next day (July 24th) presented no serious difficulties. We followed Cartridge Creek to its head and crossed by a good sheep trail to the upper basin of the South Fork of King's River. The pass was 11,700 feet elevation, and the first part of the trail down the other side was a little rough, though it improved lower down. The traveling up the cañon of the South Fork was not hard, but was disagreeable on account of brush and swamps in the tamarack pines. At the confluence of Pinchot Creek we stopped for noon, and then climbed out of the cañon alongside this stream into a glorious alpine pasture, where we camped amid flower gardens at 10,600 feet. This was one of those rare spots in the Sierra above the timber line where grass covers the hills and valleys, like the Coast Range in spring.

Next day it was up Pinchot Creek. Nowhere was the way very rough, even up to the crest of the pass just to the west of Mount Pinchot, 12,000 feet elevation. This let us over into the watershed of Woods' Creek, and the first drop-off was rough. At the lower end of the basin we found the Sawmill trail, and hurried on down the stream to the junction of the main forks for lunch. In the afternoon we followed up the South Fork of Woods' Creek, to the second lake of the chain, and

camped about a mile below Rae Lake. It was cloudy and threatening that night, but no rain fell till 4 A. M., when a heavy shower passed over.

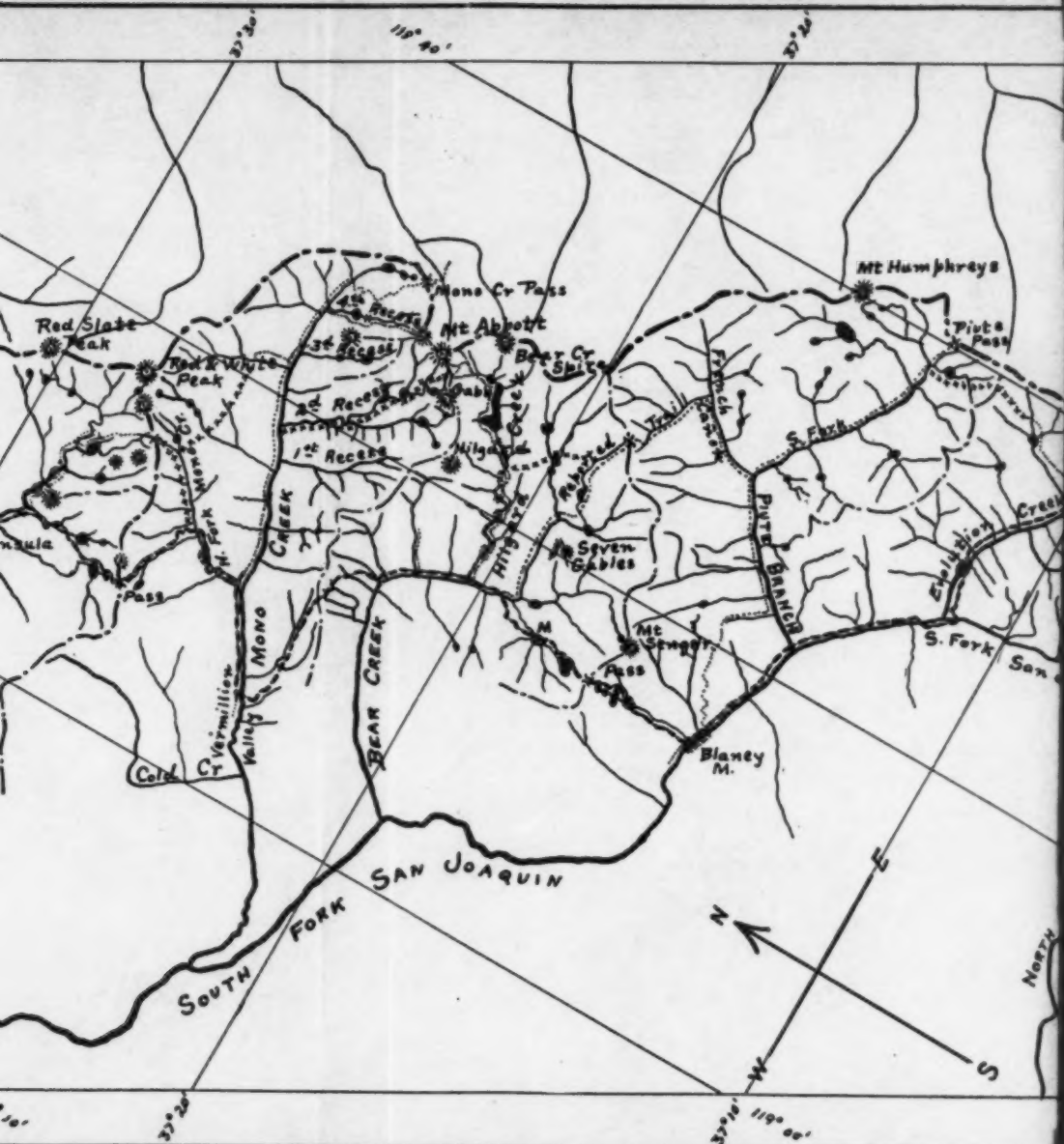
Shortly after daybreak on the morning of the 26th, the clouds broke away somewhat, and we got a good start. At the strait between the two parts of Rae Lake, two of our mules got into deep water and soaked their packs. How fortunate it was the day before the end! Going up the slopes of Glenn Pass, a heavy rain commenced, but we pushed right on up and reached the crest by 10 A. M., thus conquering our last 12,000-foot pass. There was little or no snow on the pass, and the trail was pretty rough. We attempted to follow the trail down the Bubbs' Creek side, as shown on the map of the United States Geological Survey, and got into some very bad places. We discovered later that the trail goes directly down the cañon from the pass without bearing off to the west. We ate lunch in the meadows below Lake Charlotte, and soon after picked up the big, broad, well-traveled Independence trail at Bullfrog Lake. That night we camped at the base of the East Vidette.

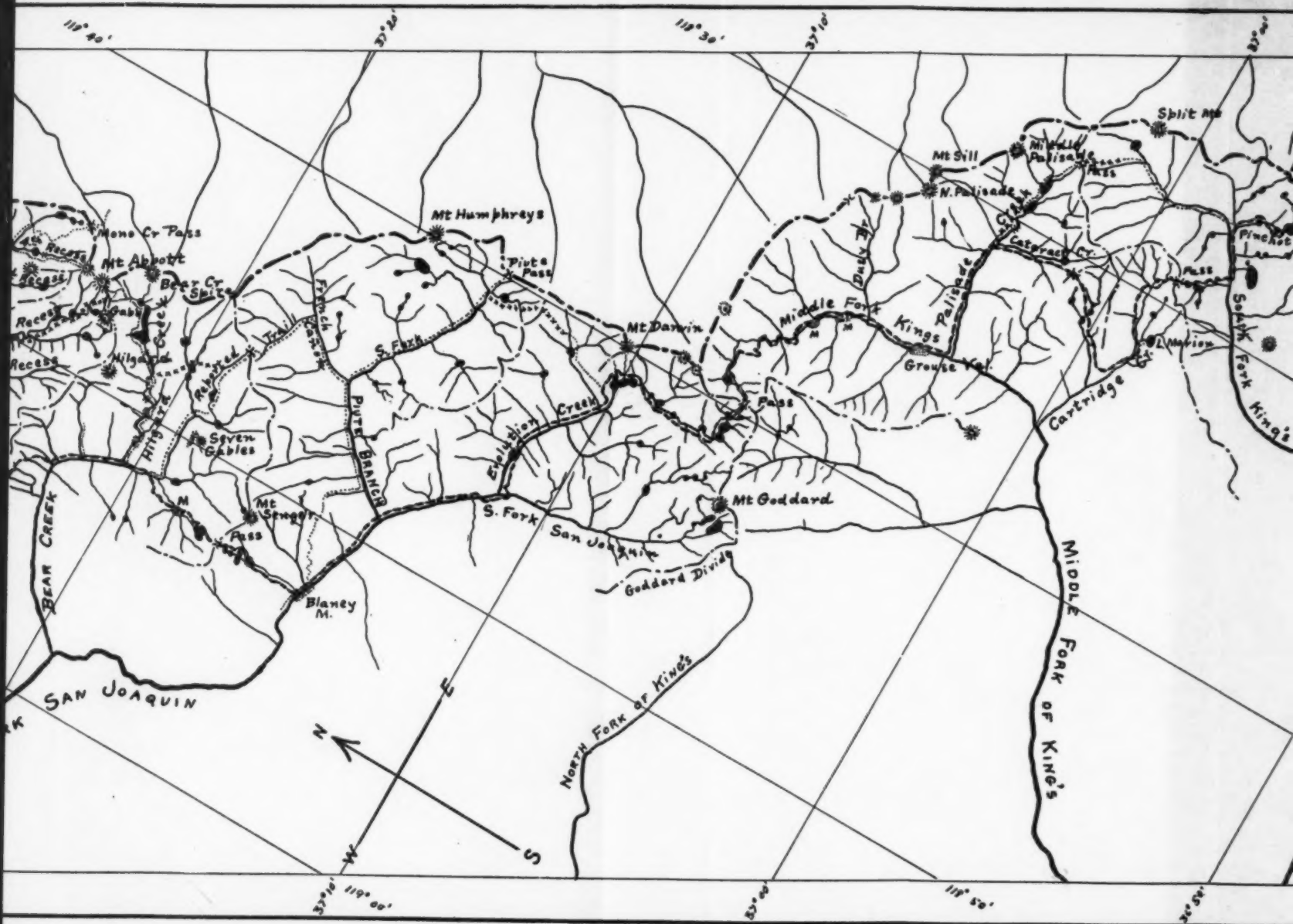
By 11 o'clock on the morning of July 27th, with our mules and our outfit whole, we arrived at Kanawyer's Camp in the King's River Cañon, and our great trip was over.

The appended sketch map shows our route. The heavy dotted line shows our main High Mountain Route. Side trips, sheep trails, and other animal routes known or reported to be passable, are shown by lighter dotted lines. Suggested possible cut-offs are shown by rows of crosses. Of these nothing definite is known. They merely indicate regions which require more careful exploration. The High Mountain Route as traversed by our party in 1908 covered about 228 miles, though including side trips we ourselves walked over 300 miles. We were out in all 27 days, but the actual time required to make the through trip was only 20 days.













WITH THE SIERRA CLUB IN THE KERN CAÑON.

BY MARION RANDALL PARSONS.

One of the tenderfeet had fallen behind on the trail. A two o'clock arising and a long morning of staging, followed by a walk of seven hot, steep, dusty miles, had proved too much for urban muscles and wind and she had lagged behind. Nearing camp in the early dusk she saw brightly burning fires and a cheerful animation about the commissary department, denoting, she supposed, a dinner hour postponed to meet the needs of weary stragglers like herself. What was her horror, then, to hear roared in tones of authority:

"Last call for lunch! Get your lunches for to-morrow! You'll have to hurry!"

"Gracious!" thought the tenderfoot with mounting uneasiness, "I've missed dinner and breakfast and nearly lost lunch! If they are as forehanded as that with all the meals I'll starve."

It was therefore something of a relief to find that Charley Tuck, with a soft spot in his lazy old heart for laggards, had kept the soup and other comforting things piping hot for the last comers, and to observe his assistant slicing bacon for the morrow's breakfast; but many days had elapsed before that first impression of strenuous camp life was wiped from her mind.

Indeed, the first days of a Sierra Club outing, when the big party is on the march from civilization to camp, have in them little leisure for man or beast. The morning of July 1st, the second day of the outing, but the first of real camp life, dawned very early for us. At 4 o'clock a sleepy Chinaman banged a dishpan with a spoon, yelling a Mongolian version of "Everybody get up!" The cry was taken up by each Sierran as he awoke, until the whole camp was chanting it in unison. A short lull suc-

ceeded this pandemonium, while fingers were busy with shoe laces and the bewildering intricacies of packing. Before the last novice had crammed his belongings into his dunnage bag most of us had finished breakfast and started on the trail.

Wishing to avoid the high passes of Farewell Gap and Coyote Pass, which wrought such havoc among pack-mules and tenderfeet five years ago, we this year chose the trail to the Kern leading from the Springville road past Nelson's and over the ridge to Fish Creek and the little Kern.

Our first night's camp was situated a couple of miles below Nelson's in a grassy cañon wooded with oaks and a few pines. Passing the little settlement with its neat orchards and brown hay-fields, we were soon among the conifers, giant yellow and sugar pines, cedars, and even a group of fine sequoia.

It was all climbing that morning—from oak and chaparral to pines and bear clover; to forests of silver fir and red fir, whose carpet of brown needles was brightened here and there by the flash of a red snow plant; to clear streams bordered with mimulus and columbine running through green meadows where the cyclamen bloomed; and higher still to the silent tamarack country with its marvelously blue sky and its trail of white granite sand. Here we had done with climbing and could swing along a comfortably level trail with an occasional outlook up the cañon of the Little Kern to the high mountains at its upper end bounding the well-remembered pass of Farewell Gap. Then it was down, down, down to the valley of Fish Creek, where camp was made for the night.

An amusing incident of the next day's travel was the fording of the Little Kern, the more cautious members laboriously removing high boots and stockings and picking their painful way across the rocky bottom barefoot, while a few of the more enterprising made almost as amusing a picture hopping across on the rocks below

the ford. A short climb out of the Little Kern brought us to the lower end of Trout Meadows, whenceforward it was easy traveling, up the meadows and the long defile that led us to the brink of the Kern Cañon cliffs.

The first permanent camp was established on the neck of land lying between Kern River and the lower Kern Lake. This is the smaller of the two lakes the cañon boasts and is admirable for swimming, the water being quite warm. The upper lake, separated from the lower by one of the kernbutts that are characteristic of this cañon, is a comparatively recent addition to the landscape, having been formed less than a half century ago, either by a landslip, or by debris brought down from a small side stream during a flood, which dammed the river at the mouth of its narrow passage between the east wall and the kernbut. The stumps of trees killed by immersion in the lake thus formed are still standing in great abundance, some of them eight or ten feet out of water; others, lying concealed beneath it, make boating, especially in the canvas canoes that enthusiastic fishermen like to use, a rather dangerous pastime.

The fishing in this lake and in the river, both above and below it, is a well-known attraction of the Kern, and our fishermen found it a paradise for them this year. Even the inexperienced anglers had a share of the good luck. Dark stories are told of the unsportsmanlike deeds of one of the fair fishermaidens, who was observed to drop her rod with a whoop of delight, splash ankle-deep into the river and haul in a two-and-a-half-pound trout hand-over-hand. And when a pained bystander offered a few hints on the advisability of playing a fish, she remarked tranquilly:

"Well, I got him, didn't I?"

But it must be said of our fishermen, that they were most temperate in their enjoyment of the unusually fine sport, and that by common consent all fishing would cease for a day or two lest the fish appetite fail and the victims of the rod be wasted.

Fishing, swimming, and a two-days' trip to the volcanic region in the vicinity of Golden Trout Creek occupied the first week of the outing, at the end of which camp was moved ten miles up the cañon to the junction of the Big Arroyo with the Kern.

An interesting feature of the side trip to the volcanoes was an experiment in stocking a lake with golden trout.

There has been a close season on golden trout for several years and the only fish of that variety caught by our party were the hundred that were transplanted.

Up in the camp at Long Meadow the word went forth from the Deputy Fish Commissioner that for a short half hour the ban would be lifted and those desirous of catching the far-famed trout would be given the opportunity to aid in this, our first fish-stocking experiment. A dozen fishermen lined up on the banks of Golden Trout Creek with half as many agile assistants in attendance, each armed with a pail of water. The successful angler, crying peremptorily for "Pail!" much as the distracted shop girl summons "Cash!" on a bargain day, dropped his gleaming captive into the pail. Thence it was transferred to the large fish cans, shaped like milk cans, but with ventilated stoppers, which, strapped to a pack mule, served to carry the fish on the trail.

The golden trout were not only wonderfully abundant, but kept biting so fast that the assistants were taxed to their utmost to respond to the calls. In a very short time the cans were filled to the requisite number, when the ardent anglers reluctantly ceased fishing. The mules were in waiting and the unwilling emigrants were at once started over the rough, steep trail to their new home, a lake beautifully situated on the high plateau between the Kern Cañon and the rugged gray peaks of the summit crest. A curious contrast was observed in the actions of the golden trout when released to those of the rainbow trout transplanted in a subsequent experiment at Moraine Lake. The golden trout leaped from the can and sped at once far out into the lake, while their less gamey



FISH PLANTING ON GOLDEN TROUT CREEK, FORMERLY VOLCANO CREEK,
KERN RIVER REGION.

From photograph by Glenn Allen, 1908.



FISH PLANTING IN MORaine LAKE, KERN RIVER REGION.

From photograph by Glenn Allen, 1908.



KAWEAH PEAKS FROM MORaine LAKE.

From photograph by C. W. Pohlmann, 1908.



FISHING SCENE ON KERN LAKE.

From photograph by James Rennie, 1908.

brethren, the rainbow trout, went timidly, and as long as we watched them kept near the bank, swimming close together in a school.

From the camp on the Big Arroyo a party of forty-six started for the climb of the South, or Red Kaweah Peak. About a mile north of camp the trail led up the cañon wall to the high country to the west known as the Chagoopa Plateau. The sky was overcast when we started and we had not been long on the trail before the rain overtook us, light, grateful showers that hung sparkling drops in the firs and washed the dust of the trail from the delicate pink pentstemon and purple daisies that brushed against us as we passed. Now the clouds would part, showing a distant snow-capped peak or a patch of brilliant sky; or again a downpour of heavy drops would drive us to the shelter of a friendly yellow pine or a canopy of tamaracks.

Our trail, after leading us across the wooded plateau for several miles, all at once emerged from the shadow into the wide, level stretch of country named the Upper Funston Meadow. It was as if the gate to the High Sierra had suddenly been thrown open, for beyond the green meadow with its little meandering stream and its gay carpet of flowers rose the nearby western peaks which the trees had hitherto concealed from us, the Red Kaweah, gray Needham with its steep eastern precipice, and the square-topped, unnamed ridge to the south.

At the ranger's cabin near the southern end of the meadow (a spot endeared by the memory of a fruitful strawberry bed) the trail became quite indistinct. We passed from one flower-studded meadow to another and beyond the third one climbed the rocky moraine that gives its name to Moraine Lake. As this was our rendezvous with the pack train, and as the weather was still inhospitable, we built a great camp fire on the lake shore where, contentedly enough, we turned now a wet side to the fire and now a dry side to the rain until we reached a condition of moist steaminess rather suggestive of Turkish baths.

Towards 1 o'clock the pack train reached us. The mule bearing the fish cans was brought to the lake shore and the rainbow trout, caught that morning in the Kern, were with due precautions deposited in the lake. They seemed a little dazed after their rough journey, or perhaps they were confused at being the center of interest for so large a group of people, for they had not ventured to swim into the depths of the lake when we left.

Our plan was to head in a northeasterly direction and camp as high as possible on the slope of the Kaweah. An attractively situated lake (on the map!) was our provisional destination.

We formed a picturesque procession, trailing through the woods, women in scarlet sweaters and short skirts; men, khaki colored, both as to clothing and complexion; and the sedate, slow-moving pack animals. Crossing wee, flower-decked meadows we followed a little soft-voiced stream whose merry chatter was lost once in a while in a burst of thunder or rush of rain which sent us scurrying to shelter. The lake was found at last, a pretty little sheet of water, but so meagerly furnished with the elements of comfort that we turned our backs on its rocky shore and scanty timber and descended half a mile to the edge of a meadow where we made camp. Even there the trees were mostly "all high and no wide," as the disgusted Jap cook expressed it, and as light showers continued to fall throughout the night more than one aspiring mountaineer awoke next morning to find one extremity or another resting in a puddle of water.

After breakfasting by firelight, we quickly formed in line and were ready to start by dawn. Following an easy contour we soon reached timber line, where the more difficult climbing began.

The South Kaweah, bearing the reputation of being an easy peak to climb from any point of attack, had been chosen by the committee as a try-out for Whitney. It was, therefore, a most startling surprise to our leaders to find the climb almost from the first beset with difficul-

ties and dangers far greater than any to be found on Whitney. Our approach was from the south, where a rocky spur seemingly afforded easy access to the main body of the mountain. Almost at once, however, we found ourselves in a short but very treacherous chimney where every moment we were menaced with that gravest of dangers to a large party, falling rocks. In mountain-climbing many places which may be surmounted with ease and safety by two or three climbers may become veritable death traps where thirty or forty people are concerned; and so, though probably not many of the novices appreciated it, the few minutes in that chimney were much more hazardous than the dramatic climbing we encountered on the knife-edge connecting our spur with the mountain proper.

I think few of us will ever forget the first glimpse of that wicked, crumbling knife-edge that we caught from the high pile of rocks above the chimney—half a mile, or more, of it, sapped right and left by the snows that, gathering in the vast cirques at its base, insidiously loosen and undermine the great boulders, leaving them, after the thaw, so lightly poised that a touch might set them loose. Its great advantage, however, lay in the fact that our line of progress led along its crest, where a loosened rock might crash its harmless way down the precipice without danger to the climbers who were now behind instead of beneath its course—always providing that it did not carry a climber with it. This last danger, indeed, and the necessity for carefully testing the stability of each rock before venturing its support for hand or foot, wrought in some of us such excess of caution that we could scarcely induce our reluctant limbs to move at all. It seemed the wildest of follies to stir a hairbreadth from the hand- or foot-hold which had proved firm toward the untried possibilities that the next step held. Slowly, and with the greatest care, we crept, crawled, and clambered along that knife-edge, some of us grimly silent, some amazingly voluble, while far below us the voice of Stub,

the packer's dog, who had obstinately and trustfully persisted in following us that morning, could be heard in violent protest against the folly of mankind and mountaineers.

Of the forty-six climbers who started forty-one reached the summit before noon. The few who failed to register had made the worst part of the climb, but were prevented by mountain sickness from attempting the final thousand feet of safe but difficult work that lay between the end of the knife-edge and the summit. So they were guided down one of the intersecting ridges to the south.

Those of us who reached the goal will long remember the panorama which greeted our eyes. Northward, close at hand, loomed the deeply dentated crest of the North Kaweahs, their rugged flanks descending in sharp knife-edges towards the treeless upper reaches of the Big Arroyo; the Great Western Divide lay beyond, lofty, boldly carved peaks and giant cirques in whose barren waste of rocks and snow scores of little glacial lakes shone and glittered like jewels; to the south and east the series of high plateaus were merged into one vast plain cut deeply by the Big Arroyo and the Kern; and facing east and towards the north again we looked across the basin of the Kern to Williamson and Whitney, their mighty forms half veiled in storm clouds.

The western slope, which we chose for the descent, proved to be composed of loose shale, easy on the downward path, but of so tedious and uninspiring a nature for an ascent that, forgetting the tremors of the morning, we were soon congratulating ourselves on having missed its drudgery and having enjoyed the most interesting climb the Kaweah could have afforded. While we had been climbing the packers had moved camp to the shores of Moraine Lake. There, at the close of the day, we found them, with fires cheerfully burning and supper under way, and Stub, weary and footsore, but with unchastened spirit, ready to greet each returning mountaineer with wild yaps of delight.



ON KNIFE EDGE OF SOUTH KAWEAH.

From photograph by Eva Channing, 1908.



CREST LINE OF SOUTH KAWEAH.

From photograph by Eva Channing, 1908.



OVERLOOKING OWENS VALLEY FROM MT. WHITNEY.
From photograph by James Rennie, 1908.

Following a climb of so many varied emotions, the ascent of Whitney came to many almost as an anticlimax. Whitney is easily accessible to all whose heart and lungs can stand its rarified atmosphere, and probably no other mountain in the world unascended by a railway can boast such an enrollment of visitors. Five years ago 150 members of the Sierra Club registered there; this year fully 100 added their names to its list.

Starting from the main camp on the morning of July 14th, we journeyed up the Kern as far as Junction Meadows, the first night's camp. It was a perfect day. Exquisite little meadows, full of flowers, here and there invaded the groves of tall pines, of firs, and of libocedrus that filled the floor of the cañon in its more fertile reaches; sandy flats, forested by junipers, ragged, bent, twisted, incredibly old, contrasted strangely with the verdant meadows; lofty cliffs of wonderful sculpture and coloring towered above us close on either hand; and always our course lay near the shining river which now leapt and flashed over a rocky bed in the sunlight, now swept in wide curves under the green gloom of the cottonwoods.

A steep climb up the cañon wall next morning made a short cut to Crabtree Meadows, the base-camp for the Whitney climb. This short cut was only discovered after considerable exploration by one member of our party and should be definitely marked for the use of pedestrians, as it is five or six miles shorter than the horse trail.

The Whitney climb, while uneventful, was very successful; and those who enjoyed the unrivalled view from the summit, the endless chain of peaks and the wonderful sight of the Inyo Desert lying over ten thousand feet below returned full of enthusiasm.

A few days later we broke camp at the Big Arroyo to start on the homeward trail. The story of the knapsack parties which cut across country to the Giant Forest is told elsewhere; the main party journeyed with the packtrain by way of Coyote Creek and Farewell Gap. Bullion Flat, remembered by those of us who visited

it five years ago as the bleakest, most desolate and uncomfortable camp the Sierra Club ever made, was this year a part of a wonderful flower garden whose masses of color stretched in almost unbroken splendor from Coyote Pass to Farewell Gap. From Mineral King the party crossed Timber Gap and made a short day's trip to Redwood Meadows, giving a few energetic members the opportunity to climb Sawtooth Peak.

The last day on the trail was one of many beautiful pictures—a brilliant dawn flying rosy banners far above the majestic crowns of the sequoias; a golden sunrise gleaming upon the wild, serrated skyline of the Great Western Divide, which rises high above the cañon of the Kaweah; an ever-widening panorama as we gained the heights of the Seven-Mile Hill; a camp among the firs, and a rocky point from which we glimpsed the sunset land.

And another last picture we remember, the campfire in the Giant Forest—the dark circle of trees; the inner circle of faces, dimly illumined, receding into shadow at the edges; and the firelight strong upon the central figure, our chief, John Muir, who, making his life one with the mountain world, has learned through its beauty and its wonder to read its soul.

DOWN THE KERN-KAWEAH.

BY GEORGE P. PUTNAM.

You all know how the party began their arduous day, on the Kaweah climb, at an hour when sane city folk are returning from their theater suppers. We leave to other hands the task of picturing the ascent—the chimneys that ended nowhere, the rock-work along the sky-cutting knife-edge—and hasten to the summit, whence our party diverged from the other climbers.

My companion, Mr. Dyer, and myself had carried packs with bedding and three days' "grub," which additional weight, as may well be supposed, added not a little to our appreciation of the peak's altitude, for foot-pounds of work accomplished form a splendid basis for altitude computation. Briefly, our plan was this: We desired to see the head of the Big Arroyo, to cross the divide, approximately 12,500 feet in height, separating Nine Lake Basin from the beginnings of the Kern-Kaweah, and once into the valley of the latter, to follow it down to its influx with the Kern at Junction Meadow. Thus we hoped to browse in pastures new and possibly come across some mountain scenery of a different character from any yet encountered. As a matter of fact, our plans, if they could have been dignified by such a title, were of the most hazy kind. Indeed, we trusted entirely to our government maps, and started out secure in the knowledge that we could blame our mistakes to these.

Having been fortunate enough to reach the summit at an early hour, we were able by noontime to continue on to the northward. We followed the very top of the wall which connects the main peak with its northern neighbors, the Black Kaweahs, with the deep abyss of the Kaweah Basin far below on our right, and on the left the sloping talus pile stretching down towards the

cañon of the Big Arroyo. After a mile or two of this lofty rock-work, our further progress was cut off by the buttress-like flanks of the next Kaweah peak, which left us a choice of climbing or skirting it to the westward. We chose to follow the latter course, and descended the long slopes that stretched down towards the Big Arroyo. If there is anything in the mountains which could make the city streets seem agreeable luxuries, it is this kind of climbing—or, rather, descending. The stones were too small to be trusted and too large to be ignored, so that one could neither leap boldly from rock to rock, nor simply slide at random. No, it was a case of perpetual watchfulness, of balancing and preparation for action when the trusted foothold turned traitor and threatened to deposit the unwary one upon neighbors, which doubtless had their share of interest for the geologist, but utterly lacked attraction as reclining places. Add to these pleasures the additional complications of knapsacks which insisted upon deserting their proper positions and climbing upon the back of one's head, with a resulting disturbance of the center of gravity. Yet in spite of it all, the west slope of the Kaweahs seems a remarkably delightful place—from this distance.

As the afternoon wore on, we made further progress towards the Big Arroyo, always skirting around towards the north as much as was possible, keeping well above the timber line, and crossing numerous snow-fed streams which flowed down from the mountain flanks towards the arroyo. Not long after the sun had disappeared behind the ramparts of the Great Western Divide, we reached a cluster of tamaracks—a distantly spied objective point. These trees seemed a group of outposts, bolder than their kinsmen below on the floor of the arroyo, who had established themselves far in the land of rock and snow. At all events, they were most welcome, and gladly we went to work upon our supper fire, whose building required no little ingenuity, for a recent rain had drenched all available fire-wood.

Supper eaten, we spread our sleeping-bags near the fire, and before the last glow had left the western sky were far away in the land of dreams, climbing fairy mountains.

If the night was cold, the morning was colder. First daylight, at ten thousand feet altitude, in an exposed camping-place is no time for loafing. Once mentally persuaded that it will be more comfortable to get up and "hustle" than to lie shivering in the sleeping-bags, there is no other way but to get the fire started and the coffee boiling—and the quicker the better! In civilization we are sometimes told that coffee is bad for us. Would that the critics could be present at such times as these morning awakenings to watch us while they contentedly sip their cold water!

The upper reaches of the Big Arroyo lay before us—barren, glacier-swept fields of rock, here a polished, sea-like floor, there dotted with great isolated blocks or mounting upward in giant steps, as if hewn out by some colossal builder. On the right the Black Kaweahs pressed in more closely, until but a narrow chasm-like valley lay between them and the opposing walls of the Western Divide. Triple Divide Peak rose to the northwest, and from it a transverse mountain-wall brought the Big Arroyo to an abrupt end. This rock-bound cup, bare of all vegetation, hemmed in on three sides by the precipitous mountain-walls, was Nine Lake Basin. A number (presumably nine) of lakes nestled in the chilled embrace of the rock floor, fed from the snow-banks that gleamed on every side, and these were wonderfully colored with ever-changing hues as we skirted them—deep purple blues, pure tones of the reflected sky, greens dark as ocean green, and browns as rich as they were unexplainable.

But soon we abandoned our enjoyment of the scene and concentrated our attention upon the task of finding a way across the divide into the Kern-Kaweah country. Apparently there were three possible methods of scaling

the wall that lay before us, rising some two thousand feet, and after considerable discussion, we chose the middle possibility, a chimney which reached the top at what appeared its lowest point. That was a thoroughly delectable chimney—for a few minutes. Then it petered out into a narrow slide cut in the surrounding rock, and covered with gravel and débris barely sticking at the angle of rest, and ready to form innumerable miniature land-slides as our feet disturbed the general equilibrium. So we gave up the chimney and took to rock-work on its flanks. For two hours we labored upward, often retracing our steps when a false move had brought us to impassible places, and always hampered by the condition of the rock, which was extremely rotten and untrustworthy.

Finally, however, we gained the summit and were doubly rewarded; first, by the magnificent view, and, secondly, by the discovery that our fears of a precipitous drop on the other side were ungrounded, for a snow-slide offered means of descent. Incidentally, we later discovered that the route chosen was the only possible one, for at no other place on the Kern-Kaweah side of the divide was there any chance whatever for descent. The view was truly inspiring, and probably doubly appreciated because of the difficulty attending its enjoyment. Below us, to the west, lay Nine Lake Basin, now darkly shadowed, and stretching away from it to the south the deep-cut cañon of the Big Arroyo; over the strangely fashioned skyline of the Great Western Divide we caught glimpses of the wooded country beyond and, farther yet, of the hazy reaches of the San Joaquin Valley. The valley of the Kern-Kaweah stretched towards the east, at first a broad, seemingly almost level field of rock, dotted with tiny lakes and patches of snow, and in the distance narrowing into a more distinct cañon. Beyond was the endless sea of snow-capped peaks, with Whitney and its neighbors rising loftily, and above all was the California sky of delicate blue. Altogether a wondrous view and long to be remembered.

After building a cairn at the top of the pass we commenced our descent and coasted down. The half mile of snow vanished astern with marvelous and not always comforting rapidity, for the laws of gravitation prosper mightily under such circumstances, and forthwith we found ourselves upon the valley floor. What particularly impressed us with the greatness of our descent was that the valley, apparently a *level* field as viewed from the top, was in reality extremely broken up and, if properly mapped, worthy of many contour lines.

All exploration of country unfamiliar to the wayfarer has its fascination, but there is something particularly attractive in gaining acquaintance with an unknown stream at its source, and thence proceeding with it to its outlet. That is what we did with the Kern-Kaweah. To be sure, a river should be followed from source to sea, but in this instance we saw our stream only from its birth in the mountain snow-banks to its adoption by the larger Kern. First it meandered through the cold rock wastes, delving into snow-fields and emerged reinforced on the far side; then it gained strength and rushed down a rocky gorge, finally coming to the land of vegetation; now it rested in quiet pools, or flowed peacefully beneath the overshadowing tamarack; now it leaped over a fall, or plunged through encompassing cañon walls. It is a wonderfully versatile stream, this Kern-Kaweah, and in miniature possesses all the scenic features attainable by flowing water. Moreover, its surroundings are truly magnificent. Indeed, we were agreed that for rough grandeur and general charm this seldom-mentioned cañon far surpassed anything we had encountered on the trip. It has its pleasant meadows, its stately tamaracks; its walls are massive, steep rising, oftentimes as impressive as are those of Hetch-Hetchy, to the author's mind, and down from them come occasional waterfalls and cascades of rare beauty. With all, a cañon well worthy of exploration by visitors to the Upper Kern country.

That night we made our camp under the tamaracks by the side of the water, and watched the flaming sunset framed by the cañon walls, and again in the morning saw it rise as brilliantly, now making gorgeous the eastern and lower end of the cañon, which lay before us.

And in a leisurely way we roused ourselves and made the six remaining miles to Junction Meadow, arriving there at noon. Our "grub" was gone, so from each Sierra member we begged a morsel, thus fortifying ourselves until the eagerly anticipated arrival of the commissary.



LOOKING DOWN KERN-KAWEAH VALLEY.

From photograph by Ralph Dyer, 1908.



THE BLACK KAWEAH.

From photograph by C. W. Pohlmann, 1908.



LAKE WASHBURN.

From photograph by Mary Randall, 1907.



LAKE MERCED.

From photograph by Dr. Edward Gray, 1907.

AN AUGUST OUTING IN THE UPPER MERCED CAÑON.

By S. L. FOSTER.

Looking for inspiration for an unusual, easy two-weeks' trip into the Sierras, I found it in two articles in the SIERRA CLUB BULLETIN. The first was entitled "From Tuolumne Meadows to Yosemite Valley by Tuolumne Pass," on page 314 of the BULLETIN of June, 1905, and the second "The Grand Cañons of the Tuolumne and the Merced," on page 235 of the BULLETIN for January, 1908. After reading these I spent my vacation very pleasantly during August, 1908, in the Merced Cañon from just below Washburn Lake to the Yosemite Valley.

In the first article there appears on page 316 the following: "We skirted the north shore of Lake Merced to its outlet and followed the river into Lost Valley and to where the Merced goes into the gorge of Little Yosemite. Further progress by the river seemed impossible. . . ." In the second article, on page 236, there appears the following: "Lying only a few miles above Little Yosemite, it (the Merced Cañon) is rarely visited, as the cañon becomes almost impassable a couple of miles below Lake Merced. Between the rocky shoulder just below Lake Merced and the wall of granite that now shuts the cañon off from Little Yosemite lies Lost Valley. . . ."

Relative to those two statements, I wish to throw a little light from my own excursion through the "impassable" part of the cañon, taking the matter up under three heads,—Lost Valley, cañon from Lake Merced to Little Yosemite Valley, impossibility of progress by the river from Lost Valley into Little Yosemite,—as I think the statements may unnecessarily deter prospective trampers from an easy and interesting trip. The difficulties described were the attractions for me.

Lost Valley does not appear on the latest U. S. geological map. Neither did the Yosemite Indian guide who piloted me and my goods to the top of the ridge overlooking Merced Cañon, nor two guides whom I found equipped with Professor Le Conte's map of the region and camping with their clients at Merced Lake, have any knowledge of the location of this valley. In the cañon at the outlet of Echo Creek, about three miles west of Merced Lake, there is one of those combinations characteristic of the Merced Cañon and consisting of meadows filled with pine trees. This valley extends for half a mile or so toward Merced Lake, but I do not think this is Lost Valley. About four miles west of Echo Creek there is a bit of a valley at the foot of a beautiful "silver apron" about two hundred feet long by thirty feet wide, preceded by a six-foot waterfall and followed by an "emerald pool" about one hundred feet across. This valley has what could be technically called an island at its lower or river side, as part of the river goes around one side and a much less part goes around the other side. It has meadows and forest also and just precedes the gorge into Little Yosemite. This I guessed was Lost Valley, but it might as well be settled by reference to whomever first applied the name.

As to the difficulty of getting from Merced Lake to Little Yosemite Valley, I would state that it took me about five hours of actual walking along fair going to make the trip between these two points, making the distance the equivalent of about ten miles. The way from Merced Lake to Echo Creek on the north side of the river and up 2,500 feet to the sunrise trail is as easy and plain as a wagon-road now, as a good, well-patronized trail exists between these places. It appears on the late Lyell U. S. geological quadrangle and has existed, according to my Indian guide, for "four or five years." From Echo Creek it is useless to proceed down the cañon on the north side of the river, as the way is practical for but a short distance; it is not pleasantly so that

far and the river cannot be easily crossed except by swimming when the way becomes impassable. By fording the river, however, at a point on the dividing-line between the timber and the granite and just at the western limit of the dead water in the river west of Echo Creek outlet, a well "duc"* rocked old sheep-trail can be easily picked out on the south side leading down to Clark Cañon.

Immediately beyond here the projecting spur forces one again through obstructive and retentive brush and uncertain, rocky going to the river and another waist-high ford in the swift river above the falls referred to in what I think is Lost Valley. Another practical, though more hazardous crossing here is over the swifter water of the "silver apron," or one could swim the pool. I used all three routes while camping in Lost Valley.

As to the passage from Lost Valley to Little Yosemite being impossible, I did not find it so. No one who has essayed the trip down the Grand Cañon of the Tuolumne balks at the Muir Gorge, which certainly appears to be and is very impassable. The trampler goes around it, and with less effort he can go around the Little Yosemite entrance gorge and still continue to follow the cañon.

From Lost Valley I found four ways over into Little Yosemite. There are two on the south side, of which one is the better, being a seven-foot leap between boulders, with a ten-foot "run" and a "take-off" three feet higher in elevation than the landing-place. Any athlete will pronounce these jumping conditions easy, but as the landing-place is a smooth spherical boulder with a boiling "pot hole" on each side and the twenty-foot falls of the gorge into Little Yosemite about thirty feet away, it loses in attractiveness somewhat upon careful study when one is alone.

I made the jump over barefoot and swam back through the "pot hole" at the head of the falls, but found an easier way than doing this two or three times for my

* Criticism is invited on this spelling. The author submits it as from the Latin *ducere*—to lead. The editor that it is from the boy's game of duck on the rock and should be spelled accordingly. Comment is invited.
—EDITOR.

various packages, as I did not dare to venture all my belongings on a single leap with those two hungry "pot holes" lashing themselves into foaming eddies so near. The possibility of catching a cramp in one of my cold journeys across the lower swirling pool was always in view, while jumping back across the roaring stream seven feet horizontally and three feet vertically, with little or no "run," was beyond my skill. If there had been two in the party, one to pitch and one to catch, this would have been an easy passageway.

I tried to bridge this bad link in the trail and found a suitable drift log a few hundred yards away, but it weighed about two hundred pounds, and I soon tired of the effort of carrying it on the uncertain footing. Then I sought the river's help, but the log promptly lodged among the boulders of the rapids. I freed it once at considerable risk when it stuck at the brink of a waterfall entirely inaccessible to me.

The other trail on the south side, looking like a way that a bear or deer would choose, after a waist-high ford through rapids at the outlet of Lost Valley, goes high up over the spur through loose granite slabs and considerable brush. I later found that these south outlets would both have led me safely into Little Yosemite, but I followed neither.

On the north side I found two ways through, one the better and the best of the four. Some pioneer had marked out a route by recent "duc" rocks through the talus and brush high up near the line dividing the foot of the dome from the brush. This way is feasible by an expenditure of some lost cuticle, considerable ruined raiment, rather much ill-temper, and a superfluity of exertion, and I followed it; but would not do so again, as it obliges one to fight two long stretches of virgin brush about shoulder high, besides some large boulders.

The trail that I would advise would lead from Lost Valley along the stepping-stones in the bed of the shallow branch of the river on the north side of the island to

the heavy talus at the end of the valley. Through or around this first obstruction the way is easy, over piles of drift-wood to the stones at the edge of the river again and along to a second wall of enormous granite blocks. Here the pioneer has "duc" rocked his trail high up through the brush, as explained, but I found by moving a few boulders I could contrive a passage under the great rocks about three or four feet high by six or eight feet wide, easily passable on hands and knees and leading back to the river again at the base of a triple falls, thus avoiding practically all the brush and talus gymnastics and expletives. From this point, by making wise use of the crevices in the granite and walking slowly and cautiously on the dry moss-covered and decomposed rock surfaces, one can rapidly work one's way down to a view of the jump passage referred to and to the entrance to the gorge.

Leaving the gorge, one can ascend the spur by the same careful tactics to meet the pioneer's "duc" rocks which lead safely and quickly down alongside another magnificent "silver apron" and "emerald pool" into Little Yosemite. There is a climb here of about fifty feet, as against five hundred feet, as I remember it, at Muir Gorge in the Tuolumne Cañon.

Part way down the Little Yosemite a third long, wide "silver apron" is met, any one of the three far surpassing in extent and beauty the one in Yosemite Valley proper.

From Merced Lake to Little Yosemite the river makes an almost continuous succession of "silver aprons," rapids, cascades, "staircase falls," "pot holes," etc., as it rushes along in its deep glacier-worn bed. It is guarded by lofty granite domes on either side, rising to Clark Mountain, 11,500 feet, near by, and relieved by pretty groves of quivering aspens and pines.

If any one should find difficulty from unwillingness or conditions in the outlined passage from Lost Valley to Little Yosemite, it is only a 400- or 500-foot climb up the north sloping brush-covered wall of the cañon. A

good deer trail leads up from the oak-tree sheltered "deer yard" in the upper part of the valley over the saddle either into Little Yosemite itself or to Sunrise Trail and out at Nevada Falls. One hour's leisurely climb sufficed to carry me from Lost Valley to the top of the north dome overlooking the gorge at the entrance to Little Yosemite, and I "duc" rocked the upper part of the trail where there were stones for "ducs" and boulders to crown. The deer tracks, however, are clear enough marks for any one to follow.

In the article last referred to, on page 237, appears the following: "We did not regret the extra work, however, for in making our way up the southern bank of the river above the lake (Washburn) we found a soda spring."

In looking for that spring I walked from my Echo Creek camp up the cañon beyond Merced Lake and beyond where the main trail crosses the river, but not to Washburn Lake. My day's outward tramping time-limit — noon — had nearly expired when, two hours' walk from Merced Lake and after crossing a cluster of three brooks on the north side of the river and before reaching a "silver apron" about one hundred feet wide and two hundred feet long, I found soda springs on both sides of the river. Those on the south side were flowing bountifully, but those on the north side were nearly dry in August. These springs were right alongside the river, were easily noted from the wide areas of rusty red deposit about them, as in Tuolumne Meadows, and their waters tasted about the same as that of the soda springs in Tuolumne Meadows.

If the report above referred to in the *BULLETIN* for January, 1908, and a similar one on page 292 of the *BULLETIN* for June, 1908, are not in error, there are soda springs both above and below Washburn Lake in the cañon.

I would venture to predict that this upper Merced Cañon, between Echo Creek and Washburn Lake, would

prove a popular substitute for the campers when driven out of the fine camping-grounds at Lake Eleanor and in Hetch-Hetchy Valley. The scenery, pasturage, and fishing in the cañon are all attractive, the accessibility only is less.

An unburdened, ambitious athlete, ready to wade, swim, or jump, could make the trip from Merced Lake to the Yosemite Valley via the cañon in one day easily, as it is practically downhill all the way.* In this short trip, counting the charms of Yosemite, he would feast his eyes on mountain views of water, rock, and forest effects the equal of which can probably not be found in any other one day's course in the park, even in the royal Tuolumne Cañon trip itself.

I had a guide and three animals carry me and my twenty-five-pound ten-day outfit of bed and knapsack from Yosemite Valley up to the top of the ridge on the trail leading down into the Merced Cañon near Sunrise Mountain at about 9,100 feet elevation.

From here I spent nine days alone, loafing, fishing, reconnoitering, etc., down to the stage again in Yosemite Valley, and I had a delightfully comfortable, exhilarating, restful time, thrilling with the joy of living in that succession of perfect California Sierra sunny days and moonlit nights among such congenial and harmonious surroundings.

I saw five deer, numerous coveys of mountain quail, one grouse, and two coyotes, but no bears, mountain lions, or rattlesnakes, and I readily caught the few trout that I wanted to complete my Sierra menu. I experienced more pretty touches of Nature than my space permits me to describe.

One morning at Echo Creek at daybreak I rose on my elbow in my sleeping-bag and in choice and emphatic English told Mr. Gray Squirrel what I thought of him for helping himself to my cold corn-meal mush,

* The writer of the article of the *BULLETIN* of June, 1905, states that his trip was made in July, 1904, a month earlier than the present writer's; so that the stage of the water might account for the different conclusions. He adds that he was not so ready at swimming in the Merced River.
—EDITOR.

as I found him coolly doing ten feet away at my fireless fireplace. He departed with an air of injured dignity. I woke up one night just in time to hear the sharp clicks of a departing deer's dainty hoofs on the granite near my flood sand-bed, sounding like a boy's wooden stilts on the concrete sidewalk, though sharper and more trippingly. Another night I was abruptly startled from sleep, and listened in the starlight with great interest to an unusual bird's call from the pine-tree immediately over my head. It was my first experience with this note, and the musical and plaintive, rather than mournful, slowly voiced, soft, yearning "Oo-oo, t'wáh-ee. Oó-oo, oó-oo," sounded novel and weird in the lonesome darkness, being so near and loud and so distinct and earnest. It was answered from a distance by the mate, and after three eager calls from the unseen lover and three calm responses, a great owl swept from his perch above me and rapidly and noiselessly vanished down the dim aisles of the tree-tops.

I saw tracks of bears, lions, coons, and rattlesnakes. I watched the trout in the "emerald pools" in Lost Valley and in Little Yosemite jump five or six feet upwards into the white water of the "silver aprons" in their efforts to climb to some fancied better abode, only to be swept back after a few seconds of hopeless wriggling along on the smooth granite. I listened to the booming of "heaven's artillery" as it crashed and roared overhead in two crackling though brief old-fashioned thunder-storms.

I studied animated twigs moving along on the river bottom, and saw chipmunks climb about on the vertical faces of the decomposed granite cliffs like spiders. I was excitedly inspected, as usual, by the ants at each new camp, criticised by the grosbeaks, scolded by the jays and squirrels, and robbed by the yellow-jackets, who came as unbidden guests to all my meals. These last-named rustics invariably ordered trout, and, though contrary to the rules in all well-regulated summer resorts that no food may be taken from the table by the guests, these

cañon visitors when served promptly decamped with the viands for some storehouse elsewhere or a hungry brood at home. Sometimes I felt that I had more company up in the mountains than I had in the city, and that I had come to the wrong place for the rest cure.

I enjoyed three delicious fresh vegetable salads, and eagerly devoured several mouthfuls of strawberries, black raspberries, thimbleberries, elderberries, gooseberries, and chokecherries. I saw many flowers that looked charmingly sweet and pretty in their unexpected little colonies amid discouraging surroundings—crimson pentstemons, yellow snapdragons, red tigerlilies, black-eyed Susans, purple primroses, white wood violets, pink and blue morning-glories, etc.

It was certainly a very interesting trip for an observing city man, who is not consumed with ambition to climb to the top of everything and who likes to commune quietly with Nature alone and in his own way.

Of course, the same facilities that permit a trampler to follow the cañon from Merced Lake to Yosemite Valley permit the return trip. Animals could go and have gone from Yosemite Valley nearly to the gorge at the eastern end of Little Yosemite, and they could go from Merced Lake to Clark Cañon, but not between Clark Cañon and Little Yosemite gorge. A bridge in Lost Valley and a little trail-building on both sides would open up the cañon to pack-animals beautifully, save the present steep climb via Sunrise trail, and provide additional pictures of interest for sightseeing wanderers and havens for campers. Possibly, it would be better to keep the trail entirely on the south side when passing Lost Valley and locate the bridge or ford in Little Yosemite.

It might then be possible to make the round trip on horseback from Yosemite Valley (4,000 feet) to Merced Lake (7,200 feet) and return in one day, with no more difficulty than the round-trip is now made to Clouds Rest (9,925 feet) and return on the same day. In the course of the Club outing of 1909 to Tuolumne Meadows it

might be practicable for some of the Club's experts to verify any of the information contained in this article that is new or in doubt, as I went as a pleasure-seeker and not as a locating engineer of mountain trails. After their report it might some day be in order for the Club to make a recommendation to the Department of the Interior on the subject.

I omitted to state that the sheep trail that I followed on the south side of the river from Echo Creek west extends to the east of Echo Creek, as I noticed plain blazes on the trees in that direction, but did not follow the trail to the east of the creek on the south side of the river. Upon further investigation a better ford than the one that I used may be found to the east of Echo Creek.

In any case, I feel that it is now established that the Merced Cañon from Merced Lake to Yosemite Valley was easily passable in August, 1908, for a man on foot and would probably be so in August of other years for one who finds himself in the upper Merced Cañon and is looking for a clean, cool, convenient, and interesting way out to Yosemite Valley.

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REPORTS.

REPORT CONCERNING TROUT OF KERN RIVER
REGION, CALIFORNIA.

SAN FRANCISCO, August 10, 1908.

HONORABLE BOARD OF CALIFORNIA FISH COMMISSIONERS, Merchants Exchange Building, San Francisco, Cal.

Gentlemen: On June 17, 1908, your Honorable Board granted me a permit to take and transplant golden trout in the vicinity of Mount Whitney. I beg to submit this, my report, concerning such transplanting, and also venture to make general suggestions, which I deem for the best interests of the fish in that region.

At our own expense, the Outing Party which visited the Kern River and vicinity was provided with two of the ten-gallon Buhl cans, with air holes in covers, to use in connection with the transplanting.

First Planting of Golden Trout.—On July 7 we were camped at the head of Long Meadow on Golden Trout Creek, and with the assistance of a dozen or more members of the party we caught with hook and line, in a very few minutes, on a limited stretch of the stream in Long Meadow, about 110 golden trout, averaging from four to six inches in length. These were divided between the two cans. I started out with two pack horses and two packers to take this lot over rather a rough route to a lake in Rocky Basin, at the head-waters of one of the branches of Golden Trout Creek. It took about three hours of continual traveling to reach the lake, and when the fish were released only one was found to be dead, it having been too severely hooked. All the others were in splendid condition, as is attested by the fact that within five minutes after being placed in the lake we saw them leaping for flies and feeding on the innumerable water beetles and other insect life with which the lake abounds, there having been no fish living in it previous to our planting.

Second Planting of Golden Trout.—The evening of July 15 I arrived at Rock Creek in company with Mr. J. Robinson, our head packer, and his wife, who assisted us, having left Crabtree Meadows, at the base of Mount Whitney, that afternoon. We had with us the necessary pack outfit, intending to transplant trout from the head of Golden Trout Creek, taking them back

to Whitney Creek, which lies at the base of Mount Whitney. I had heard that there were golden trout in Rock Creek, which is half way to Golden Trout Creek, and upon arriving that evening I ascertained this to be true, for without any difficulty I caught a beautiful specimen of the pure golden trout, and therefore decided it would be unnecessary to go on to Golden Trout Creek. The next morning we caught fifty-four golden trout, which averaged from ten to twelve inches, being nearly twice the length of the golden trout in Golden Trout Creek. These trout, as I was informed later in Visalia, were placed in Rock Creek several years ago, and have now become quite numerous. They retain their coloration and other characteristic features of the golden trout of Golden Trout Creek, and being so much larger, they afford splendid fishing. Fifty-four trout were placed in an unnamed lake at the head of one of the branches of Rock Creek, in which there were no fish previously. This lake abounded in insect life, and there were numerous frogs and pollywogs, as in the case of the lake where the first planting occurred. Though the fish were of very large size, it being impossible to get small ones, they were in splendid condition with two or three exceptions, and none dead.

Third Planting of Golden Trout.—We returned to Rock Creek in the afternoon and caught about fifty more of these large trout, which we took back with us to Crabtree Meadow and placed in Whitney Creek. All of the trout were alive and in good condition, except one which had died en route, and the next morning, as we came down through the Meadow, on our way back to the Kern River, we saw half a dozen of these beautiful large fish swimming in the stream where we had placed them. Whitney Creek is very similar in many of its characteristics to Golden Trout Creek, and ought to make a splendid home for the golden trout. There are numerous lakes through which the main stream flows, and at its head-waters. It is probably impossible for the trout to reach these lakes from the Meadows where they were planted, and it will be most desirable for some one later on to catch a few from the Meadows and transport them to the lakes, which are only a short distance away, after the trout have multiplied. Many of these large trout appeared to be about ready to spawn, and if this is the case there ought to be plenty of trout in Whitney Creek in a very short time.

Fourth Planting—Kern River Trout.—On July 11th, under the direction of Professor W. C. Morgan of the University of California, and assisted by several of the fishermen of the party, sixty Kern River trout of six or eight inches in length were

caught in the Kern River near its junction with the Big Arroyo and placed in a cracker box with slits cut in it, and anchored in the river over night. The next morning about thirty more, making ninety-three altogether, were added to these, and they were placed in the cans and taken over a very steep trail to Moraine Lake on the Chagoopa Plateau, near the base of Kaweah Peak. The trail was so rough that the pack train had to be stopped twice on account of pack animals falling down, and eleven of the fish were found dead upon reaching Moraine Lake. The remainder were in fine condition and were seen swimming about in schools for some time after they were planted. Since Moraine Lake is a favorite camping ground for those who visit the Kern River and climb Mt. Kaweah, it is to be hoped that this planting will result in success, as Moraine Lake is of quite considerable size, and will afford splendid fishing.

Suggestions for Protection and Preservation of Golden Trout.—I ascertained from members of our party that they had seen campers fishing in Golden Trout Creek above the falls, before my arrival to take charge of the planting. These campers had moved on, and I saw none of the illegal fishing myself. I notified all the members of our party to warn any one against fishing in this stream. Other members of our party who went over to the South Fork of the Kern saw persons fishing in that stream, and it seems to be the general idea among campers and cattle men in that vicinity that the law prohibiting fishing for golden trout applies only to Golden Trout Creek. I notified campers, whenever the opportunity occurred, of the fact that the law applies to any variety of golden trout wherever found, and I personally stopped fishing on Rock Creek.

The area in which the golden trout are found is so limited that it would have been well to have placed signs at different conspicuous points where trails pass, in order to inform campers of the existing law. I am sure that there are many who break the law through misinformation, who would not do so if they were made aware of its existence. It is probably too late now to accomplish much good in this direction, since the law will expire by the time next year's fishing commences. I had in mind all the time I was in that vicinity, the question of further protection of these wonderful trout. There is no question that they are very numerous in Golden Trout Creek at the present time, but the moment the law is removed fishing will commence again, and it will be an easy matter to deplete the stream, as it is only a few miles in length, and the trout are so easily caught. I would recommend that the next Legislature pass a law limiting

the daily catch of golden trout to ten in number per day. This will enable tourists who pass through this region to satisfy their curiosity, and, for the present at least, will not have any serious effect on the number of the trout in the stream. This law should apply to Golden Trout Creek, Rock Creek, and Whitney Creek, as well as other streams where the *Roosevelti* variety of the golden trout may be planted. I do not know that it will be necessary to have so small a limit placed on the other varieties of golden trout in the South Fork of the Kern and Cottonwood Creek. I would also suggest that if such a law be passed, that it will be most desirable to have a number of strong cloth signs printed, setting forth in brief the law, and these should be placed in conspicuous places by nailing to trees along the trail and at stream crossings. This can easily be done and will doubtless be attended to by some interested persons in Visalia. Then no one will have the excuse that he is not correctly informed as to the law.

I would further suggest that the entire plateau or drainage area of the streams which rise along the main crest of the Sierra and flow to the west and into the Kern River Cañon be reserved for the pure variety of golden trout. (See page 30 of Dr. Evermann's report on the golden trout.) All of these streams enter the Kern River in steep cañons, up which the Kern River trout cannot ascend. They are similar in their characteristics to the Golden Trout Creek, in which the golden trout are native, and they will thus present an extensive territory in which these trout can be found and caught. There are also many lakes in some of these drainage basins, which will aid in making the fishing as fine as could be wished. We found it a comparatively easy matter to catch these trout with hook and line, and with two of these large cans, to make many successful plantings. In many places it would be possible for the camper to catch a dozen or twenty trout and carry them in a bucket of water only a short distance and place them in adjoining streams and lakes, which now have no fish.

It will be eminently desirable that the trout which we planted in Whitney Creek in Crabtree Meadow should be afforded further protection if possible. Every party which comes to climb Mt. Whitney (and parties arrive almost every day during the summer season) camps in this meadow, and these trout are so easily caught that they may be taken before they have a chance to propagate. I would suggest that some legislation be recommended protecting these trout in Whitney Creek until they have multiplied so that there will no longer be any danger of fishing out the stream. As soon as trout are placed in the lakes at

the head-waters of this stream, which can be accomplished by any interested camper after the trout have increased in numbers, it will no longer be possible to catch out the fish. Hon. George H. Stewart of Visalia stated that he would secure the passage of an ordinance by the Board of Supervisors of Tulare County, preventing fishing in Whitney Creek for the desired length of time, and this will doubtless aid in accomplishing the results desired.

General Remarks.—We found the trout in Kern River to be as plentiful as ever—in fact, too plentiful to afford the most attractive fishing for the sportsman. It was easy for an expert to catch the limit in three or four hours. I was informed by members of our party that there were two camps of fishermen near Kern Lake that were making a habit of smoking trout, and upon inquiry I found that it was the general impression among campers and cattle men that the law only prohibited a person from catching more than fifty trout in one day, but that he might repeat this day after day, and smoke whatever trout he might have left over after each day's catch, thus being able to pack out as many dried and smoked fish as he desired. If the law is otherwise, as I assume, and a person is only allowed to have fifty trout in his possession at any one time, whether smoked or fresh, I would suggest that this matter be given some publicity in this region, and that the smoking of trout in such large numbers be stopped in the future, as I understand it is a common occurrence every year.

Taking into consideration the variety of trout to be found in the Kern River region, and their great number, it undoubtedly affords the best trout fishing in the world. We were particularly pleased to find that the golden trout would grow to such large size and yet retain their remarkable coloration. With their wonderful golden red color and their great strength, they make the most beautiful and spectacular game fish that we have, and every means should be taken to protect them until they shall have been planted in a sufficient number of streams and lakes to make it impossible to decrease their number to any appreciable extent.

Respectfully submitted,

WM. E. COLBY,

Secretary of SIERRA CLUB, and Deputy Fish Commissioner.

SAN FRANCISCO, CAL., August 25, 1908.

MR. WILLIAM E. COLBY, Secretary SIERRA CLUB, 302 Mills Building, City.

My Dear Mr. Colby: I want to thank you on behalf of this Board as well as myself, for your very interesting report of

August 13 concerning the trout in the Kern River section and the good work done by you on your recent trip to that region. I have been away from the city, or would have acknowledged it earlier; besides which I sent it to Mr. M. J. Connell, our new member in Los Angeles, who is a thorough sportsman and has fished and hunted not only throughout the United States, but in all the good hunting and fishing sections of the world.

There are some excellent suggestions in this report that will have the attention and consideration of the Board. I believe that this report is worthy of a place in our Biennial Report, which will come out some time this fall. I think that yourself and the Club are entitled to have your good work known to the people, not only of this State, but the United States.

Yours respectfully,

CHAS. A. VOGELSANG,
Chief Deputy.

VISALIA, CAL., August 29, 1908.

MR. WM. E. COLBY, San Francisco, Cal.

My Dear Mr. Colby: I received two days ago a reply to my letter of inquiry regarding the planting of golden trout in Rock Creek. The same is from M. W. Buffington, County Surveyor of Kern County, California.

He informs me that on or about August 1, 1900, he and James Reynolds of Lone Pine, M. Reynolds of Ventura, R. N. Heyn of Pasadena, Charles Blacker and William Silver of Bakersfield, and a Swede or Norwegian, name unknown and now deceased, caught twenty-one trout in the upper meadow through which Volcano Creek runs, and placed back in the water all that were over four inches long.

Mr. Buffington and Mr. Heyn each took seven of the trout in a small lard pail and rode as fast as possible to Rock Creek, occasionally stirring the water, and changing three times when passing springs. When about half way between the summit and Rock Creek they turned three trout loose in a tributary of Rock Creek, and the rest (eleven) were carried to the trail crossing on the creek, where they were placed in the water "with some show of ceremony."

In 1906 two of the party, James Reynolds and R. N. Heyn, caught some fine large golden trout at the same place.

I was much pleased with your excellent report of the planting of golden and rainbow trout by yourself and others. I think all the lakes and streams of that region of high altitude, east of the Kern, should be planted with golden trout. In a few years all of those bodies of water would become well populated. I believe the golden trout would do better there than species brought from a distance—and they have no equals.

I will report your work and Mr. Buffington's to the Bureau of Fisheries in Washington.

Can you, at some time, give the names of all the members of the party who assisted in the planting done by you? The Government desires the names for their records.

Very truly yours,

GED. W. STEWART.

SAN FRANCISCO, September 1, 1908.

PRESIDENT DAVID STARR JORDAN, Stanford University, Cal.

My Dear Dr. Jordan: I am enclosing herewith a copy of report made recently to the State Fish Commission, which I thought would prove of interest to you. I am also sending you copy of letter just received from Major Stewart of Visalia, indicating that my inference was correct, and that the *Roosevelti* variety of golden trout were planted in Rock Creek. I made a careful examination of the fish from Rock Creek, though I did not have any description of the *Roosevelti* variety at hand to compare with. The only possible change which has taken place as far as my observation goes, is that there are very fine black spots extending further along the back and well up past the dorsal fin than is the case of the golden trout of Golden Trout Creek. These dots are small and not particularly numerous. The large size of the trout is probably due to the fact that as yet there are comparatively few fish in the stream, and, as in case of trout planted in lakes, where there have been no fish previously, they grow to large size for the first few years, and then gradually diminish in size as their numbers increase until they acquire a uniform size, which probably is determined by the particular environment. The trout in Rock Creek will probably increase in numbers if protected, and eventually become smaller until they are like the average of the trout in Golden Trout Creek.

I wish to record for your information another interesting fact in the trout line, which I am not sure has been called to your attention. I caught a number of trout in the Kern River near Junction Meadows and up toward the falls of the Kern-Kaweah in that stream. They are quite distinct from the Kern River trout. Their general color is quite dark, and they look almost as black as a black bass, as they are taken out of the water. Their size is a little larger than the golden trout. Like the golden trout, they are distinguished by the absence of scales; in fact, it appeared to me that this absence of scales was more complete and remarkable than in the case of the golden trout. Their skin had the feeling of a kid glove along the sides, and presented no perceptible appearance of scales. They had a broad stripe of dark rusty or reddish brown along the sides, and were

marked in the same manner along the belly, this color taking the place of the golden color of the golden trout. Like the golden trout, they had no spots except a few large ones on the tail, and, if my memory serves me right, on the dorsal fin. The largest I caught was about ten or eleven inches in length, and appeared to be a full grown fish with evidences of age, and in shape was very similar to the large golden trout. I have thought that possibly these fish were either golden trout which had entered the Kern from Golden Trout Creek and then ascended the main Kern as far as the topography would allow, and by reason of the absence of the large amount of sunshine and color of the rocks on Golden Trout Creek had acquired this dark coloration, or perhaps, though less likely, it may have been a modification of the Kern River trout, with tendencies similar to that shown by the golden trout. I regret that I did not bring a specimen home with me, but we had not provided ourselves with any facilities for doing so, and in fact I did not appreciate how distinct this fish was until I got to thinking it over and had been reading more detailed descriptions of the golden trout. If you have previously heard of this Kern River fish, I wish you would let me know what you think of it. With kind regards, I remain,

Very truly yours, Wm. E. COLBY.

STANFORD UNIVERSITY, CALIFORNIA, September 2, 1908.

MR. WILLIAM E. COLBY, 502 Mills Building, San Francisco, California.

Dear Sir: I am very greatly interested in your letter in regard to the golden trout. I have lately heard of the occurrence of golden trout in Bubbs Creek, at the head of the King's River. It would be interesting to know whether these are the result of somebody's planting, or whether we have in this stream an additional species produced by isolation, in addition to the three already existing in the head of the Kern.

The dark fish which you have taken in Junction Meadows I have never heard of before. It is not possible without seeing them to guess as to the origin, and maybe it would be guess-work then. It is interesting to notice that so far the golden trout has held its color in different waters. It is, of course, natural that it should reach a larger size in large streams. The more they eat the bigger they get is a rule applying to all trout everywhere.

Very truly yours, DAVID STARR JORDAN.

CEDAR CABIN, NORTHPORK, CAL.

My Dear Mr. Colby: It was most kind of you to think of me in connection with the report on the golden trout, and I have read the report with the greatest interest. Thank you very much.

It is the hope of both Mrs. White and myself that some day our trails may cross with that of the SIERRA CLUB.

Most sincerely,

STEWART EDWARD WHITE.

September 4, 1908.

SOUTHERN PACIFIC COMPANY,

SAN FRANCISCO, CAL., September 19, 1908.

MR. W. E. COLBY, Secretary, SIERRA CLUB, 302 Mills Building,
San Francisco.

My Dear Mr. Colby: I am glad to have your letter of the 7th inst. with copy of report concerning trout of the Kern River region. It is very gratifying indeed to know that so much is being done to expand the golden trout fishing grounds. The preservation and multiplication of our game fish is a matter of the greatest importance, and I hope that the efforts which have been put forth may be attended by the highest success.

Yours truly,

JAS. HORSBURGH, JR.

DEPARTMENT OF COMMERCE AND LABOR,

BUREAU OF FISHERIES,

WASHINGTON, October 14, 1908.

MR. WM. E. COLBY, 302 Mills Building, San Francisco, Cal.

My Dear Mr. Colby: I wish to thank you for your letter of September 1st, transmitting a copy of your report to the Board of California Fish Commissioners on the transplanting of the golden trout and other trout in the southern High Sierra last season. I have read this report with a great deal of interest.

I take it for granted, of course, that the stream which you call Golden Trout stream is that which is designated in my report as Volcano Creek. I am unable to locate on the map the lake in Rocky Basin in which you first planted. Can you indicate a little more definitely just how I may locate it?

I am glad to know that the trout in Rock Creek are doing well. That is a good stream, and it is interesting to know that they are growing to such good size.

The statement that *Salmo whitei* was planted in the Big Arroyo was made on the authority of Mr. Edward Hurlburt. I am glad to know that the species was not *Salmo whitei*, but *S. gilberti*.

The stocking of barren streams in this region appeals to me as one of the most interesting lines of work which the State Commission or other parties interested can engage in, and I hope that we may all see the time when all of those streams may be supplied with different species of trout. It is highly important, however, that no two species should be put in the same stream or in streams that communicate with each other. In

order to keep track of the species, a single species to each stream is necessary; we could then keep track of their adaptability, changes in color, growth, etc., due to their new environment.

I congratulate you most heartily on the excellent work which you are doing, and I hope that the State and Federal Governments may continue to enforce regulations which will afford adequate protection to the interesting fishes in all these streams.

Respectfully,

(Signed) BARTON W. EVERMAN.

REPORT OF THE LE CONTE MEMORIAL LODGE COMMITTEE.

During the summer of 1908 several of the needed repairs noted in our last report were made. The entrance porch floor was cemented, and a smooth pavement now replaces the loose gravel that formerly filled the porch and made the steps unsafe at times. The steps themselves have been put in perfect repair and some of the cracks in the building filled up. There is still a considerable amount of repairing to be done to the building to insure against future damage. Steps will be taken by the Committee to complete these needed repairs as they may be authorized and as funds warrant.

The hundred dollars donated by our member, Mr. James Mills of Riverside, is now being expended as he suggests for the making of eighteen fine substantial oak chairs. We are expecting a donation to buy a large oak top for the lodge table to match these chairs. An oak desk to match these chairs and the table is needed. This should not be more than thirty-four inches long. Other needs are: two curtains for store-room doors, 8 feet long, finished, and 3 feet wide; three rugs 10 feet long and 4 feet wide; a door rug 6 feet long and 3 feet wide. Framed pictures should not be over 18 inches wide. The Committee believes that \$150 or \$200 would complete the furnishing of the lodge in a substantial and suitable manner. Donors to this fund may specify to which of above needs they prefer their donation applied.

The complete set of *Appalachia*, donated by the Appalachian Mountain Club, has been bound and will go in with the custodian for the opening of the Lodge for the season of 1909, as also a full set of the *SIERRA CLUB BULLETIN*. The complete list of additions to the library are given in the custodian's report.

The growing importance of the Lodge as a source of information on the Park, for the increasing number of visitors each year is graphically shown by the report of the custodian for the season

of 1908, which report the Committee takes pleasure in including, as follows:

TO THE LE CONTE MEMORIAL COMMITTEE.

The Le Conte Lodge was opened for the season of 1908 on May 18th.

At that time there were not many tourists in the Valley, the early travel being near its end. Most of the tourists were Eastern visitors on their way home after a winter in Southern California. These seemed particularly interested in the books, maps, etc., especially those relating to the Yosemite National Park.

During the second and third weeks after the opening, the Native Sons' Convention brought large numbers to the Lodge and furnished the largest registration for one day of the entire season, namely, eighty-five.

In June and the early part of July the registration was largely from San Francisco and cities around the bay. Later in the season there were more from Southern California and interior towns.

The chief interest of the majority of the visitors seemed to be the maps and flower collections. Many questions were asked about the Park outside the Valley by persons wishing to take extended trips. Judging by the information sought, it would seem to be almost impossible for visitors to find any correct information about trails or points of interest surrounding the Valley itself, outside a very narrow circle. The Geological Survey maps could not be obtained anywhere else than at the Lodge, and the information as to distances, etc., was so vague as to discourage any one not already in a measure familiar with the mountains from attempting even a few days' trip into the higher country.

After the third week of July the registrations steadily diminished until the time the Lodge was closed, August 18th, with a total registration of 2302.

Rose vines were planted on each side of the entrance, which, if they survive the first winter, will add much to the appearance of the Lodge.

The flower collection of 1907 was mounted and a few specimens named.

A zinc-lined box was placed in the Lodge to store the books, pictures, etc., during the closed season. This box will probably be large enough for several years, but when more room is needed the seats around the fireplace could easily be lined with zinc and fitted with hinged covers.

A great addition to the usefulness of the Lodge would be a placard or poster setting forth the objects for which it is main-

tained. These posters should be placed at the various camps and at the village. At present the majority of visitors simply stumble on the Lodge, and many pass it by without noticing it at all. There is also a misleading post-card sold in the Valley, inscribed "Le Conte Memorial Chapel."

The photograph albums are worn out and shabby and should be replaced principally with views of the Park.

The following additions to the library have been made during the season of 1908: *Appalachia*; SIERRA CLUB BULLETIN; California State Board of Trade, Circular on Recession; Wild Flowers of California, Parsons, donated by the author; Manual of North American Butterflies, Maynard, donated by the author; Starvecrow Farm, Weyman, (paper); The Far Horizon, Malet, (paper).

Donations to the library of books and pamphlets relating in any way to the Yosemite National Park, or treating of the geology, botany, mineralogy, ornithology, ichthyology, or zoölogy of the Sierra Nevada are particularly welcome, and would undoubtedly be of great service to many of our visitors.

The Club is indebted to:

Major H. C. Benson for kindness and courtesy to the Club representative;

Mrs. E. A. Filkins and Mrs. Paul Dickenson for "Starvecrow Farm" (Weyman) and "The Far Horizon" (Malet);

Mr. Lewis A. Aubrey, of the State Mining Bureau, for two maps of the Minaret District of Madera County;

Mrs. R. E. Bonsfield for a cash donation;

The Southern Pacific Company for two large framed photographs—one, the Kaweah Peaks, the other, Mount Shasta.

Respectfully,

MARY RANDALL, *Custodian.*

Respectfully submitted,

E. T. PARSONS, *Chairman,*

WM. F. BADÈ,

J. N. LE CONTE,

Le Conte Memorial Lodge Committee.

REPORT OF OUTING COMMITTEE—1908 OUTING

The July, 1908, Outing of the Sierra Club to the Kern River Cañon was eminently successful. The party numbered about 150, including assistants. The Kern Cañon was entered by way of Porterville, Springville (Daunt P. O.), and Nelson's. We found this route much easier than the Mineral King approach. After

camping a week at the Kern Lakes the party moved up the cañon to the junction of the Kern River and the Big Arroyo, where a main camp was established. Side trips were taken to Moraine Lake and Kaweah Peak, to Mt. Whitney via Junction Meadows, and to Golden Trout Creek. Golden trout were planted in several lakes and streams hitherto without fish, and Moraine Lake was stocked with Kern River trout.

The party returned via Mineral King and Redwood Meadow to the Giant Forest, where stages were taken to Lemon Cove.

We were honored by having our President, John Muir, with us during the entire Outing, and his genial presence and instructive talks added largely to the pleasure of the trip.

The commissary and transportation problems were solved in the same satisfactory manner that has marked our recent Outings.

The one sad event of the trip was the untimely death of Miss Grace Barnett, who lost her life the day following the climb of the Kaweah Peak, by falling from a precipice in the gorge of the Big Arroyo. It occurred in the attempt to make a hazardous short cut back to the Kern Cañon, instead of taking a longer round-about route over a perfectly safe trail. Miss Barnett was one of the most loyal, enthusiastic, and entertaining members of our outing parties, and her loss brings with it a sadness that words fail to express. This is the first serious accident that has befallen any one on the Outings, and we sincerely trust that it may be the last. Every precaution had been taken to prevent accidents, and this one would not have occurred if an unnecessary hazard had not been taken.

The next Outing of the Club will be in the Yosemite National Park, during the month of July, and an entirely new trip made through the park. Leaving the Yosemite Valley, a week will be spent in the little-known but beautiful Merced Cañon above Little Yosemite; another week will be spent in the Tuolumne Meadows—that "grand central campground of the Sierra," as Muir calls it; and a third week will find us traveling by way of the Matterhorn Cañon, Pleasant Valley, Rancheria Mountain, and the wonderful region north of the Grand Cañon of the Tuolumne, into Hetch-Hetchy Valley. The fourth week in this Yosemite-like valley, and a return to El Portal will conclude one of the finest Outings that can be taken the world over. The entire expense of the trip will be about \$65. The formal announcement will be issued shortly. Respectfully submitted,

WM. E. COLBY, J. N. LE CONTE, E. T. PARSONS,

Outing Committee.

NOTES AND CORRESPONDENCE.

In addition to longer articles suitable for the body of the magazine, the editor would be glad to receive brief memoranda of all noteworthy trips or explorations, together with brief comment and suggestion on any topics of general interest to the Club. Descriptive or narrative articles, or notes concerning the animals, birds, fish, forests, trails, geology, botany, etc., of the mountains, will be acceptable.

The office of the Sierra Club is Room 302 Mills Building, San Francisco, where all Club members are welcome, and where all the maps, photographs, and other records of the Club are kept.

The Club would like to secure additional copies of those numbers of the SIERRA CLUB BULLETIN which are noted on the back of the cover of this number as being out of print, and we hope any member having extra copies will send them to the Secretary.

MEMORIAL.

The Outing Party of the SIERRA CLUB, assembled in the Big Arroyo Camp on this eighteenth day of July, 1908, desires to express for permanent record its sense of loss and grief in the sudden death of Miss Grace Barnett on the afternoon of Monday, the thirteenth day of July.

Grace Barnett was a Western girl, a student and graduate of the University of California, and after graduation she taught in the Berkeley schools. Among students, pupils, friends, she was powerful, popular, beloved. She was eager to work, eager to help, eager to give her utmost; and always of perfect simplicity and dignity, unassuming, modest, brave.

But the Sierrans met her in her happiest moods, for Grace Barnett was a typical Sierran. Young, vigorous, gay, eager for adventure, she loved the outdoor life among the forests and mountains of her native State. She bloomed like a flower in this wilderness, vivid with life, brilliant with color, responsive to winds from the heights. She had the spirit of an explorer; she would put her foot on untrodden soil, would test the inviolate vastness of Nature in her secret and protected places, in the haunts reserved from eye and foot of man. And in this love she died, tempted too far by her joy in the wilds. Beloved of the gods, she died in her youth—swiftly, easily, joyously; died in the open air, between the lofty cliffs of the steep cañon, with the song of the Big Arroyo singing in her ears.

"If it be now, 'tis not to come." Since it was to be now, in happy youth, and not in sober middle life nor placid age, what death could be more fine, more fitting, for a daughter of the Sierras who loved the open wilderness? Her fellow-members

of the Outing Party of 1908, in expressing their own deep sorrow, in extending to those most near to her their sympathy, wish to express also their reverence for the high nobility of her character, which dared even to audacity, which invoked even danger in the young ardor of her joy of life.

Resolved, That this expression of sorrow and sympathy be published in the next issue of the *SIERRA CLUB BULLETIN* and that a copy thereof be sent to the family of the deceased.

THE VALUE OF NATURAL SCENERY.

[Address delivered at the White House Conference on the Conservation of Natural Resources, May 14, 1908, by J. Horace McFarland, President American Civic Association.]

[This is reprinted because of its excellent presentation of a subject for which the Sierra Club stands pre-eminently.—EDITOR.]

MR. CHAIRMAN: I urge this august and influential assembly to consider the essential value of one of America's greatest resources—her unmatched natural scenery.

It is well that we should here take full account of the peril of our national prosperity, indeed to our very national existence, which lies in further wasteful disregard of our waning resources of forest and mine, of water and soil. By the possibilities of conservation here discussed, the mind is quickened, the imagination fired. But the glory of the United States must rest and has rested upon a firmer foundation than that of her purely material resources. It is the love of country that has lighted and that keeps glowing the holy fire of patriotism. And this love is excited, primarily, by the beauty of the country. Truly inspired is our national hymn as it sings—

"My native country, thee,
Land of the noble, free,
Thy name I love;
I love thy rocks and rills,
Thy woods and templed hills:
My heart with rapture thrills
Like that above."

Paraphrasing a recent utterance of Mayor McClellan upon city beauty, I insist that

"The country healthy, the country wealthy, and the country wise
may excite satisfaction, complaisance, and pride, but it is the
country beautiful that compels and retains the love of its citizens."

We cannot destroy the scenery of our broad land, but we can utterly change its beneficial relation to our lives, and remove its stirring effect upon our love of country. We can continue to convert the fairest land the sun shines upon into a desert of ugliness. Indeed, we are abundantly able to outdo the Sahara



HETCH-HETCHY — THE TUOLUMNE YOSEMITE.

From photograph by J. N. Le Conte, 1908.



WALLS OF GRAY GRANITE RISE PRECIPITOUSLY OUT OF FLOWERY GARDENS AND GROVES.
From photograph by J. N. Le Conte, 1908.

itself in desolation, for that vast waste, so singularly like the United States in contour and extent, and once, geologists insist, as well wooded and watered as was our favored land a century ago, has somber dignity in its barrenness—a dignity completely absent from our civilized Saharas of culm-bank and ore-dump, from timber-slashing and filth-filled river.

Scenery of some sort will endure as long as sight remains. It is for us to decide whether we shall permanently retain as a valuable national asset any considerable portion of the natural scenery which is so beneficently influential upon our lives, or whether we shall continue to substitute for it the unnatural scenery of man's careless waste. Shall we gaze upon the smiling beauty of our island-dotted rivers, or look in disgust upon great open sewers, lined with careless commercial filth, and alternating between disastrous flood and painful drought? Are we to consider and hold by design the orderly beauty of the countryside, or permit unthinking commercialism to make it a horror of unnecessary disorder? Is the Grand Cañon of the Colorado to be really held as nature's great temple of scenic color, or must we see that temple punctuated and profaned by trolley poles? Shall we hold inviolate all the glories of the Yosemite, or are we to permit insidious corporate attacks upon its beauty under the guise of questionable economics? Shall the White Mountains be for us a great natural sanitarium, or shall they stand as a greater monument to our folly and neglect?

It is certain that there has been but scant thought given to scenic preservation hitherto. I remember the contempt with which a lawyer of national renown alluded to the absurdity of any legislation by Congress in preservation of scenery, when, in its wisdom, that body chose to give a measure of temporary protection to a part of Niagara's flood.

Indeed, one of the potent forces of obstruction to the legislation now demanded by the country in scant protection to the almost destroyed mountain forests of the East has expressed itself in a contemptuous sneer at national expenditures for the preservation of scenery!

We meet in a historic place, in a historic city. The Father of our Country was not only greatest in war and in statesmanship, but one of the greatest of his time in esteem of natural beauty, and in the desire to create urban beauty in what he wisely planned as the Federal City. George Washington loved dignified beauty, and the wisdom of his plan has resulted in making a national capital not only admirable in its adaptation to the public needs, but destined, as his plans are carried out, to be beautiful beyond compare.

What is the effect of the scenic beauty of Washington upon the citizens of the nation who come here? Is not their pride awakened, their patriotism quickened, their love of country increased by the dignity of man's effort for beauty here? Consider wealthy Pittsburg, busy Cincinnati, proud Chicago, with their wasteful smoke, their formless streets, their all-pervading billboards and grime—would one of these serve to stimulate love of country as the national capital?

No, the unthinking and oftentimes unnecessary ugliness of civilization does not foster patriotism, nor does it promote the health and happiness which are at the very basis of good citizenship. When, in looking over the horrors of industrial civilization, William Morris urged humanitarian effort

"Until the contrast is less disgraceful between the fields where the beasts live and the streets where men live,"

he brought out a bitter truth. We have made our cities ugly, for the most part; but we are learning the basis of happy citizenship, and, while we cannot altogether make over these centers of population, we are bringing into them the scenic suggestion as well as the physical facilities of the open country, in the parks. In these parks lies the answer to the ignorant contempt for scenery to which I have alluded; for it is incontrovertible that peace and health and good order are best fostered in the parks including the most natural scenic beauties.

Mr. Chairman, there is, too, a vast economic reason for jealously guarding all of our scenic heritage in America. Visiting a quiet Canadian community on the shore of Lake Ontario a few days since, I was impressed by the number and the beauty of the summer homes there existing. Inquiry brought out the astonishing fact that they were almost exclusively owned by residents of a certain very wealthy and certainly very ugly American city, where iron is king. The iron manufacturers flee from the all-pervading ugliness they have created, and the money earned in complete disregard of the naturally fine scenic conditions about their own homes is used in buying scenic beauty in a foreign country. Perhaps a certain form of protection is here suggested!

It is authoritatively stated that the tourist travel tribute paid annually to Europe exceeds a half-billion dollars, of which vast sum America contributes a full half, getting back a far smaller sum in return travel from all the world. No one will suggest that there is travel to see ugly things, or to look upon wasted scenery, in Europe. No, this vast sum is expended almost entirely in travel to view agreeable scenic conditions, either natural or urban. The lumber king leaves the hills he has



THEIR BROWS IN THE SKY — THEIR FEET SET IN GROVES AND GAY MEADOWS.
From photograph by J. N. Le Conte, 1908.



HETCH-HETCHY VALLEY IS A GREAT LANDSCAPE GARDEN.

From photograph by J. N. Le Conte, 1908.

denuded into piteous ugliness, and takes his family to view the jealously guarded and economically beautiful Black Forest of Germany. The coal operator who has made a horror of a whole country, and who is responsible for the dreadful kennels among the culm-banks in which his imported labor lives, travels with his gains to beautiful France, and he may motor through the humble but sightly European villages from whence came his last invoice of workers.

Every instinct for permanent business prosperity should impel us not only to save in their natural beauty all our important scenic possessions, but, also, to fully safeguard the great and revolutionary development almost certain to follow this epoch-making conference. We are assured by experience that the use of our great renewable resources of soil fertility is attended with the continuance of beautiful scenic conditions. The smiling farm, the blooming and glowing orchard, the waving wheat-fields, the rustle of the corn—all these spell peaceful beauty as well as national wealth which we can indefinitely continue and increase.

Can we not see to it that the further use of our unrenewable resources of minerals and primeval forest is no longer attended with a sad change of beautiful, restful, and truly valuable scenery into the blasted hillside and painful ore-dump, ugly, disturbing, and valueless?

The waters of our streams must furnish the "white coal" of the future, and electrically turn the wheels of commerce in smokeless economy. Such a change can consider, retain, and sometimes increase the beauty of the scenery; or it can introduce the sacrilegious ugliness of which the American gorge at Niagara is at present so disgraceful an example. The banks of the waterways we are to develop can be made so pleasing as to attract travel, rather than repel it, if we care for this land of ours as a place to dwell in, rather than to flee from.

We cannot, either, safely overlook the necessity for retaining not only for ourselves, but for our children's children, at least a portion of God's glory of mountain and vale, lake, forest, and seaside. His refuge in the very bosom of nature, to which we may flee from the noise and strain of the market-place, for that renewing of spirit and strength which cannot be had elsewhere. True, we can continue and expand our travel tribute to the better sense of the Eastern World, but that will not avail our toiling millions. "Beauty for the few, no more than freedom or education for the few," urges William Morris; and who shall say that such natural beauty of scenery as we have is not the heritage of all, and a plain necessity for good citizenship?

Every one of us recognizes the renewing of strength and spirit that comes from even a temporary sojourn amidst natural scenic delights. The President has but just returned from a "week-end" visit to his castle of rest in the Virginia hills. Could he have had equal pleasure in Hoboken? Mr. Carnegie's enterprises built dreadful Homestead, but he finds the scenery about Skibo Castle much more restful!

Who of us, tired with the pressure of twentieth-century life, fails to take refuge amid scenes of natural beauty, rather than to endeavor to find that needed rest in a coal-mining village, or in the heart of some sordidly ugly timber slashing? The most blatant economist, who sneers at the thought of public beauty, accessible by right to all, is usually much interested in private beauty of scenery, of home and of person, if accessible to him alone! Selfishly and inconsistently he recognizes in his own use the value of the natural resources he affects to despise.

I am convinced that the vast majority of my countrymen hold deep in their hearts sentiments of regard for the glorious natural beauty of America. If to my inadequate words there be any response among those here present, may I but hint at some things that might well result?

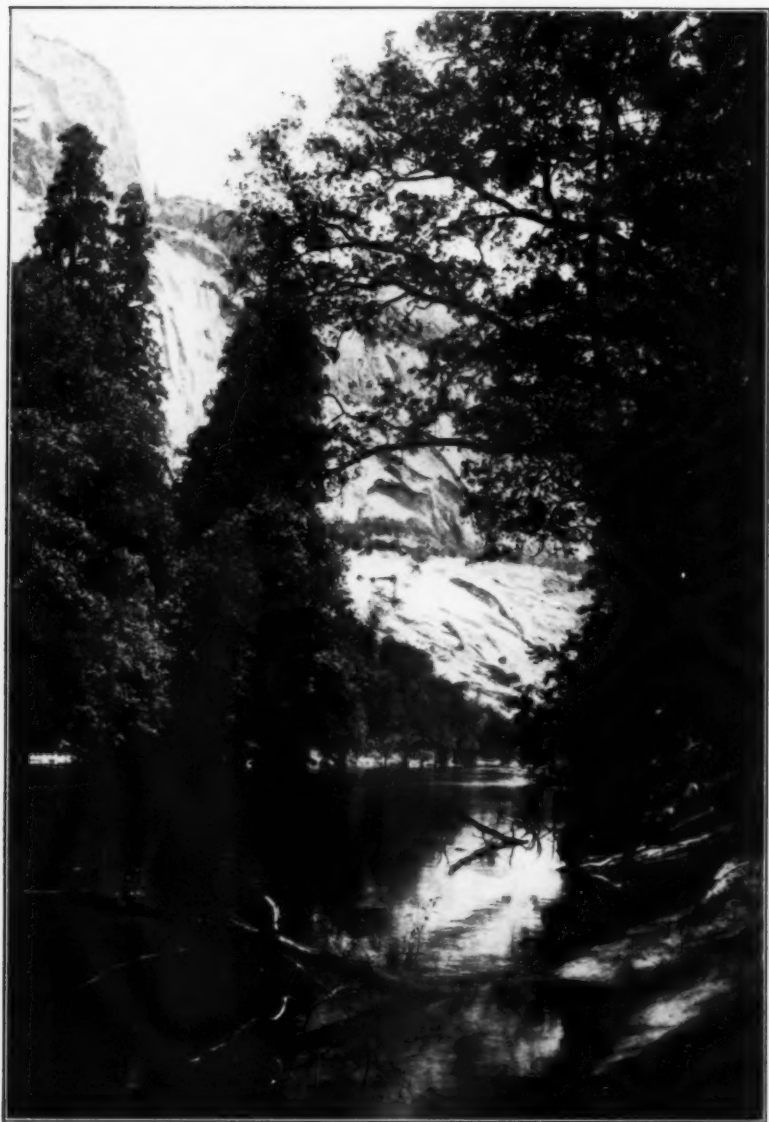
First, we must hold inviolate our greater scenic heritages. All the nations visit the Falls of Niagara as the wonder of the Western World, yet we are even now engaged in an attempt to see how closely we can pare its glories without complete destruction. Eminent authorities warn us that the danger line is passed, and that a recurrence of a cycle of low water in the Great Lakes may completely extinguish the American Fall. A hundred other water-powers in New York and Ontario would together give as much wheel-turning electric energy, but all the world cannot furnish forth the equivalent of Niagara in beneficent influence upon the minds of men, if held as a scenic heritage. The glory of Niagara today hangs by a hair, and millions of incorporated private money seek covetously to cut the hair.

The national parks—all too few in number and extent—ought to be held absolutely inviolate, as intended by Congress. Intrusions for questionable water-supply needs, against the unselfish protests of those whose love of country cannot be impugned, should not be permitted.

The scenic value of all the national domain yet remaining should be jealously guarded as a distinctly important natural resource, and not as a mere incidental increment. In giving access for wise economic purposes to forest and range, to valley and stream, the Federal Government should not for a moment overlook the safeguarding to the people of all the natural beauty



THE SUBLIME ROCKS OF ITS WALLS GLOW WITH LIFE.
From photograph by J. N. Le Conte, 1908.



THE TUOLUMNE FLOWS IN TRANQUIL BEAUTY THROUGH THE HETCH-HETCHY.
From photograph by J. N. Le Conte, 1908.

now existing. That this may be done without in any way preventing legitimate use of all the other natural resources is certain.

The governors of sovereign States here assembled, the many organizations here represented, possess the power and have the opportunity to so change and guide legislation and public opinion as to foster the underlying desire for public beauty, both natural and urban. We have for a century stood actually, if not ostensibly, for an uglier America; let us here and now resolve, for every patriotic and economic reason, to stand openly and solidly for a more beautiful, and, therefore, a more prosperous America!

A HIGH PRICE TO PAY FOR WATER.

APROPOS OF THE GRANT OF THE HETCH-HETCHY VALLEY TO SAN FRANCISCO FOR A RESERVOIR.

[Reprinted by consent of R. U. Johnson, Esq., Associate Editor of the *Century Magazine*.]

Too little was said at the White House Conference of the conservation of one of our chief resources, our great natural scenery, though Mr. Horace McFarland made an impassioned appeal for its protection as a national asset. This is in no sense a local question. The Palisades and Highlands of the Hudson, the White Mountains, the Adirondacks, Niagara, the Yellowstone Park, the Arizona Cañon (to name but the chief of such treasures), belong to the whole country, and their invasion by special interests or their diversion to commercial uses should be a matter of the most vigilant scrutiny.

The Secretary of the Interior, for reasons which doubtless appear to him good and sufficient, and with the approval of the President, has made over to the city of San Francisco, on certain conditions, as a reservoir for its water supply the wonderful Hetch-Hetchy Valley, one of the most beautiful gorges of the Sierra, which, as part of the Yosemite National Park, was set aside in 1890 by reason of its scenery for the recreation and use of all the people. This action has, on the face of it, the authority of a congressional provision (of February 15, 1901) by which the Secretary of the Interior may grant water privileges in the three National Parks of California, "*if not incompatible with the public interest.*" Whether the United States Supreme Court would hold that such authority extends to the destruction of so large an extent of the original purpose of the reserve may yet be the subject of adjudication.

In a matter relating to public lands the presumption is in favor of any course taken by President Roosevelt, Secretary Garfield, and Forester Pinchot. As our readers know, we have vigor-

ously supported their enlightened services to the cause of forest conservation, as we have the services of preceding administrations. It was in this magazine that the movement for the creation of the Yosemite National Park first took public form in 1890, and the chief reason urged upon the Public Lands Committee for making the reservation—and we know whereof we speak—was to rescue from private invasion and for public use the rare beauty of the Hetch-Hetchy and of the Cañon of the Tuolumne River, which flows through it. We therefore have particular regret that we do not find satisfactory the reasons officially given for the Administration's extraordinary step, which, logically, would place the great natural scenery of the country at the service of any neighboring city which should consider its appropriation necessary or even desirable.

Let us say at once that we hold human life more sacred than scenery, than even great natural wonderlands, vastly as they contribute to save life and promote happiness; and if that were the issue, if San Francisco could not otherwise obtain an abundant water supply, we should be willing to dedicate to that purpose not only Hetch-Hetchy, but even the incomparable Yosemite itself. But this is not the contention of Secretary Garfield in the official document granting the request. The Administration's position is not that the step is a last resort, that no other source is adequate, but that Hetch-Hetchy affords the most abundant and cheapest available supply of pure water. Even this is stoutly denied by the opponents of the scheme, who contend, moreover, that a dozen other adequate systems may be found. Eminent and disinterested engineers have declared the present supply excellent and capable of ample development, as the water companies claim, and since the city fixes the water rates, and at need may condemn and acquire these sources at reasonable cost, there would seem to be no dangerous "monopoly." Indeed, the permission to dam the beautiful valley into a lake is conditional upon the previous exhaustion by the city of the resources of Lake Eleanor, which is also in the National Park. Other conditions are attached and compensations agreed upon which are believed by the Secretary to be safeguards of the public interests, with the important omission, however, to provide safeguards against the destruction of the scenery; but the fact remains that of this great reservation, which is as large as the State of Rhode Island, the northern third—for the watershed of the valley even above the Tuolumne Meadows must go with the valley itself—is to be withdrawn from the use of the people of the whole United States and given to the city of San Francisco. This involves a new principle and a

dangerous precedent, and is a tremendous price for the nation to pay for San Francisco's water, and the burden of proof that it is *necessary* is upon those who advocated the grant. It is not enough that it should be thought merely *desirable*.

It is idle to attempt to discredit such defenders of the public's previous rights in the valley as John Muir and many other members of the SIERRA CLUB and other like organizations by calling them "sentimentalists" and "poets." Cant of this sort on the part of people who have not developed beyond the pseudo-"practical" stage is one of the retarding influences of American civilization and brings us back to the materialistic declaration that "Good is only good to eat." Most of those who oppose the grant live in San Francisco and vicinity and are deeply interested in the future of that redoubtable city; but they know the growing vogue of the few camping-grounds of the health-giving park, into which, in the torrid and dusty summer, the people of the lowlands swarm in "the pursuit of happiness"; they know the exceptional beauty of the Hetch-Hetchy, only surpassed in the Sierra by the neighboring Yosemite and by the distant and not easily accessible King's River Cañon; they know, also—to meet on its own ground the argument of cheapness—the money value of California's great natural attractions and that once to destroy the beautiful valley floor by flooding will be to render it irrecoverable.

There is one ground of hope that the danger may be averted. By the time it can be demonstrated that Lake Eleanor is not adequate, it is likely to be generally recognized that a pure water supply need not depend upon mountain resources, but may be obtained by filtration from streams of less pure quality. Meantime the citizens of San Francisco, who (alone of Californians!) are to vote upon the question, will do well to exhaust every other possibility of meeting their needs before giving their consent to the ruin of one of their imperial State's greatest natural treasures. We are confident that this issue would be the one most approved by the officials at Washington, who, from conscientious motives, have given assent to local official demands.

AN INTERESTING HIGH SIERRA TRIP.

On August 23d our party of six and pack-train left the Giant Forest. Our route took us via Rowell Meadows, thence over the (upper) trail through a forest of tamarack, via Williams Meadow and Sugar Loaf Peak to Scaffold Meadow. From Scaffold Meadow we made our way in Roaring River Cañon over a deserted miners' trail, up the left branch of the Roaring River (shown as Cloudy Cañon on government maps, but changed in the last

sixty days to Deadman's Cañon). We camped opposite that singular mountain, the Whaleback, above the mouth of Table Creek. The next day we climbed Table Mountain (altitude 13,646 feet) in the great western divide, whence by far the finest view of the High Sierra I have ever had rewarded us—a view including the upper cañon of the Kern, the Mt. Whitney Range north from Olanche Peak, the north walls of the King's Cañon, the Great Western Divide, the Roaring River Cañon, and Moraine Ridge, and perhaps fifty high mountain peaks from Mt. Whitney downward, and many mountain lakes. Table Mountain is individual in having a greater surface area on its flat top (probably 70 acres) than any other mountain of corresponding or greater height in this country. We found no evidence of any trail to this mountain-top, nor any sign of previous visitors upon it; accordingly we lost considerable time in exploration on the way up and did not reach the summit until 3:40 P. M. As a result we camped, with such comfort as a fire gave us, on the rim of the steep wall of Cloudy Cañon all night at timber-line, in a grove of mountain pine, watching the home campfire 1,500 feet below. Breakfast next morning was hugely appreciated.

Our route next took us up the cañon to the Triple Peak divide, whence we found an abandoned trail through Miners' Gap (12,000 feet) across to the head of the western branch of Roaring River, paralleling north and south the Cloudy Cañon fork. The cañon of the stream known then as Deadman's Cañon has been now changed to Copper Cañon, in honor of the abandoned copper mine charmingly wrought in as a part of Stewart Edward White's story, "The Trail." The old trail through the gap we reconstructed, and, crossing, descended Deadman's Cañon to timber-line, where camp was made, while on the ensuing day we explored for a possible route down into the Middle Fork of the Kaweah. This we located with some difficulty, through a saddle (Red Gap) over which we passed and which presented no great obstacle. We monumented the route which diverges to the right from the old, unused miners' trail in Deadman's (Copper) Cañon a considerable distance above timber-line but below the last (upper) falls. This leads upward to a junction with a small stream flowing down from Red Gap, which can be readily recognized as a red, iron-stained saddle, quite to the right of the central point of the cirque-like ridge at the head of the cañon. On its summit is a miner's monument, well built, but not visible from the cañon. Crossing the saddle the route is monumented to a little meadow a mile down, where we camped over night in a little clump of trees. The route down into the Kaweah should be explored before being attempted, as we did not monument it. On the United States Geological Survey maps a small unnamed stream, running

almost directly south into the Middle Fork of the Kaweah, and joining that stream about a mile below Lone Pine Meadow, will be noted. Leaving the meadow we crossed to the west side of the basin, then southwestward, crossed this stream, and zig-zagged our way downward a little way to the west of it. This last descent should be examined carefully before being attempted, but the route over the gap is evidently much superior to that used by Mr. White via Lion Lake, and described in "The Trail."

The views from Table Mountain and, in lesser degree, from Miner's Gap are magnificent; the former far surpass the Mt. Whitney and Kearsarge Pinnacles section views, and, for that matter, any other high points in the Sierra I have visited.

It is not necessary to go up the eastern (Cloudy) cañon in making the journey, except as it may be desired to climb Table Mountain, and in any but good weather Miner's Gap would be impassable. Indeed, one of our horses fell on a sloping snow-bank there and, after turning three somersaults, lit on his saddle and gaily glissaded down the snow for fifty yards, where the rocks stopped him. Miraculously he escaped with a dozen minor cuts and bruises. Several of the other animals performed unusual acrobatic feats on the journey, but none was seriously injured; all thirteen were in "good health and spirits" when we reached camp.

The rest of our journey down the Kaweah, thence via Redwood Meadows, through Mineral King, over the new Lady Franklin lakes trail, down the Rattlesnake to near its mouth, thence over a hunters' trail down Willow Creek to the Big Arroyo, thence via the mountain, Funston Meadows, to the Kern and home via Coyote Pass and the South Fork of the Kaweah, is familiar to the majority of Sierra Club members and needs no description, interesting as it is, save that it should be noted that Ranger Redstone says the trail into the Kern down the Rattlesnake will be open this spring, and that will be a route much superior in time and attractiveness to the Farewell Gap-Coyote Pass way.

But if you wish a glorious outing, the Roaring River-Kaweah trip offers fascinating attractions. The meadows, the streams, the fishing, the scenery (and by hearsay the hunting) are all that could be desired for comfort and pleasure. Any of our party will be, I am sure, glad to answer questions from those interested in the journey. The members of the party and their post-office addresses are: Gilbert Hassell, care Tibbetts Photo Co., San Francisco; Fred Shoup, Traveling Passenger Agent of the Southern Pacific Co., San Francisco; W. H. Bull, San Mateo; Tom Ritchie, Oakland; J. T. Mayfield, Naranjo, Cal.; Floyd Carter, Three Rivers, Cal.; and the undersigned, Flood Building, San Francisco.

PAUL SHOUP.

BOOK REVIEWS.

EDITED BY WILLIAM FREDERIC BADÈ.

"THE CANADIAN ALPINE
JOURNAL."

The second issue of *The Canadian Alpine Journal** gives ample evidence of the enthusiasm felt by its members for one of the most recent of mountaineering organizations, the Alpine Club of Canada. Two interesting stories are contributed of attempts to conquer virgin peaks, one recording three failures to attain the summit of Pinnacle Peak, the other giving all too brief an account of the successful ascent of Mt. Garibaldi. The Scientific Section of the journal contains: "The Causes of Mountain Forms in the Canadian Rockies," Mt. Stephen's Rocks and Fossils," "The Nature and Activity of Canadian Glaciers," besides two botanical papers and a record of observations taken on the Yoho Glacier. In a lighter vein and of a more intimate touch is the Miscellaneous Section, including humorous articles and sketches contributed by members of the Paradise Valley camp, the headquarters of the 1907 outing. The journal is splendidly illustrated with photographs and drawings. M. R. P.

"THE SANITATION OF
RECREATION CAMPS
AND PARKS."

Any doubt as to the ultimate fate of the Tuolumne Meadows, should the damming of Hetch-Hetchy for San Francisco's water supply be finally accomplished, is dispelled after reading the chapter entitled "Water Supply" in Dr. Harvey B. Bashore's recent book, "The Sanitation of Recreation Camps and Parks."† The author, who is medical inspector for the Pennsylvania Department of Health, deals rather with the sanitary problems of summer cottages, of construction camps, and the semi-civilized camper of the East than with the nomad's community which is the Sierran's idea of a permanent camp, though the problems to be solved and the precautions to be taken are in many ways identical. The book is a valuable one, even though the sanitarian's point of view may seem in some cases a trifle exaggerated. Nevertheless, it is this same sanitarian point of view which in all probability will seal the doom of the Tuolumne Meadows if this Hetch-Hetchy grant is confirmed. The possible pollution of springs and surface streams

* *The Canadian Alpine Journal*, published by the Alpine Club of Canada, 160 Furby Street, Winnipeg, Manitoba. \$1.00.

† *The Sanitation of Recreation Camps and Parks*. By DR. HARVEY B. BASHORE. John Wiley and Sons, Publishers, 1908.

and their ability to carry contagion many miles from its source is clearly shown in this book; and that the increasing hundreds of campers who yearly visit the area of the Tuolumne watershed will be prevented from continuing to enjoy this wonderful pleasure ground when the water must be kept pure for a city's use is clearly forecast, from the sanitarian's standpoint at least.

M. R. P.

"THE MOUNTAINEER," One of the many interesting features of the November, 1908, issue of *The Mountaineer** is the announcement of the Vol. I, No. 4. Seattle club's program for its third annual outing to Mt. Rainier. Those of us who made the ascent of this mountain from Paradise Park in 1905 will envy our brethren in the North the opportunity given them to make its acquaintance from the comparatively unfamiliar northeastern side. Only the heartiest praise can be accorded this latest number of the *Mountaineer*. The steady improvement that each succeeding issue of the magazine has shown gives sufficient evidence of the club's growth and influence. No. 4 of Vol. I, published only two years after the formation of the club, will hold its own among the best mountaineering journals of America.

"THE ALPS IN NATURE AND HISTORY." There can be only one opinion on the merit of this fine book from the pen of Mr. Coolidge.† The author is an honorary member of the English, French, and Italian Alpine Clubs, and he has long been recognized as an authority on the Alps. This is not merely a book on mountaineering, but a careful descriptive and historical study of the Alpine Ranges, their peoples, flora and fauna, the geographical divisions, together with an account of ancient and modern exploration and mountaineering. To all this are added most convenient lists of the principal peaks, with their altitudes; another list, giving the first ascents in chronological order, from 1358 down to 1907, and a most satisfactory bibliography of the subject. The author clearly recognized the indispensable character of a thorough index, by the aid of which a reader can find in a moment what he wants. In fact, the book represents so prodigious an amount of labor, and is so full of condensed and valuable information on everything pertaining to the Alps, that it is bound to become a standard reference book on the subject. A map and seven diagrams of the chief passes help to explain the historical and geographical chap-

* *The Mountaineer*, November, 1908. Vol. I, No. 4. Seattle, Washington.

† *The Alps in Nature and History*. By W. A. B. COOLIDGE. Green cloth, extra gilt. Pp. xx+440. \$2.50 net. E. P. Dutton & Co.

ters. A perfect delight to the eye are the twenty half-tone, full-page plates, that truly adorn the volume. The following list of chapter headings will convey some idea of the contents: "What Are the 'Alps,'" "The Snowy Region of the Alps," "The Pastures of the Alps," "Alpine Flowers," "Some Beasts and Birds of the Alps," "The Alpine Folk, Political Allegiance, Mother Tongues, Religions," "The Great Historical Passes of the Alps," "The Exploration of the High Alps up to 1865." The reviewer takes pleasure in recommending this as the latest and best book on the subject.

W. F. B.

"A COMPLETE
MOUNTAINEER."

A book that claims to be "complete" on any subject is rightly regarded with suspicion. In this case, however, it merely marks the inclusion of the volume in a "complete series." The author himself disclaims the presumptuousness of the title* as an "impossible pitch." Nevertheless, this volume is in the opinion of the reviewer the best, the most interesting, and the completest book on the sport of mountaineering to be found in any language. This is saying a great deal, but it is said with deliberation. No small measure of the uniqueness and excellence of the work is due to the photographs, of which there are seventy-five. They are certainly a most remarkable set of pictures illustrative of mountaineering. Nearly all of them were taken by the author, who is apparently as expert with the camera as with the ice-axe. The contents of the book are divided into three parts, dealing respectively with the technicalities of the sport, with climbing in the British Isles, and mountaineering on the continent of Europe. The eight chapters of the first part discuss, among other things, the equipment of a mountaineer, the art of rock-climbing, snow-craft, and a very sane chapter on climbing with and without guides. No one who has had any experience in mountaineering can escape the feeling that a master of the craft is speaking in these chapters. Climbing in the Sierra Nevada consists chiefly in rock-climbing, and for some time to come will have to be done without the assistance of guides. I wish to say emphatically that the climbing contingent of the Sierra Club will find this book full of good suggestions and fascinating reading. The two chapters on rock-climbing for instance, will make a stimulating appeal to Sierrans who are by preference devoted to this form of the sport. The chapter on the dangers of mountaineering discusses perils and contingencies seldom thought of by a beginner. It is impossible to discuss at length the rich content of this book. My unhesitating advice is "Buy it."

W. F. B.

* *A Complete Mountaineer.* By GEORGE D. ABRAHAM. Doubleday, Page & Co., New York, 1908. Pp. 493 and 75 half-tones.

FORESTRY NOTES

EDITED BY PROFESSOR WILLIAM R. DUDLEY.

FIRST NATIONAL FOREST
EAST OF MISSISSIPPI
CREATED.

To Florida goes the distinction of getting the first National Forest created east of the Mississippi River. In November President Roosevelt signed a proclamation setting aside and naming the Ocala National Forest, in Marion County in eastern Florida, and another proclamation creating the Dakota National Forest, in Billings County in the Bad Lands Region, North Dakota. Inasmuch as the last-named National Forest is the first in North Dakota, the two proclamations add two more States to the list of those wherein land will be put under scientific forest administration. There are now nineteen States and Alaska having National Forests.

Before the creation of the Ocala, in Florida, the two forests in Arkansas, the Ozark and the Arkansas, were the easternmost National Forests. Practically all the other National Forests are in the Rocky Mountain and the Pacific Coast States. The Florida forest has an area of 201,480 acres, of which about one fourth has been taken up under various land laws.

FOREST FIRES.

Because of continued drouths in the Eastern States, forest fires have been far greater in extent than for many years. It is admitted that the total amount of losses will never be known. Dr. W. T. McGee, of the U. S. Department of Agriculture, places the aggregate loss in all parts of the country during the summer months at \$1,000,000 a day. Statistics for the entire season for the National Forests show that fires occurring on 168,000,000 acres of the latter have cost the Government, exclusive of salaries, \$30,000. The amount of the value of the timber destroyed is not known as yet, but it will be insignificant when compared with the great losses occasioned by fires elsewhere. The Forest Service estimates on the basis of its own experience that the whole forest area of the United States could be patrolled and protected at the expense of \$3,000,000 a year and save the estimated annual loss of \$20,000,000.

NATIONAL CONSERVATION
COMMISSION.

This most important body, the chief practical outcome of the Governors' Conference last May with the President and others, is about ready to report on the much talked-of inventory of the Nation's resources. It met for putting in shape

the results of six months of labor on December 1st; its formal report is due to the President January 1, 1909. It is made up of some of the best known names in the Government scientific service, in public life, and in the various industrial fields. The lines along which the Commission has worked are those laid down at the May Conference, and such an active educational discussion has resulted in the public prints that every one now recognizes the natural division of our resources into two groups—one containing oils, coal, our various metals, which may become exhausted in their natural state, some of them, indeed, totally exhausted; the other group comprising soils, forests, and streams to be used for water-supplies, power, and navigation, which are capable of perennial renewal and continuance. A most important conception in the public mind is that the resources in the latter group are interdependent, and that back of the normal conservation of the soils of arable lands, and of the streams and of river navigation, stands a normal condition of the forests. The work of President Roosevelt in advancing the practical work of land reclamation and forest conservation (rather than preservation), and, finally, his leading the whole nation to take stock of their entire resources and provide if possible against their unnecessary waste and exhaustion, would of itself be enough to place him among the world's greatest statesmen; and beside him Gifford Pinchot looms very large as a benefactor of America.

The Commission held a conference with the Governors of States at Washington December 8th-10th, Mr. Pinchot presiding. More than thirty Governors signed a report approving the principle of co-operation among the States and between the States and the Federal Government in the conservation of the country's natural resources. Summarized reports on the investigations made by the different sections of the Commission were given out. Senator Flint of California is chairman of the mineral section. "The mineral production of the United States now exceeds \$2,000,000,000 in value every year, and is second only to agriculture as a contribution to our national wealth. The waste in the mining and treatment of mineral substances during the year is equivalent to more than \$300,000,000." The report on forestry says in part:—

"Forestry is practiced on 70 per cent of the forests publicly owned and on less than one per cent of the forests privately owned, or on only 18 per cent of the total forest area. We take yearly, including waste in logging and in manufacture, twenty-three billion cubic feet of wood from our forests. Under right management our forests will yield more than four times as much as now. We can reduce waste in the woods and in the mill at least one third, with present as well as future profit. We can perpetuate the naval stores industry. Preservative treatment will

reduce by one fifth the quantity of timber used in the water or in the ground. We can practically stop forest fires, at a total yearly cost of one fifth the value of the standing timber burned each year, not counting young growth. We shall suffer for timber to meet our needs until our forests have had time to grow again. But if we act vigorously and at once we shall escape permanent timber scarcity."

**PURPOSES AND SCOPE OF
WORK OF NEW DISTRICT
ADMINISTRATION OF
NATIONAL FORESTS.**

The institution on December 1st of six district offices in the West by the United States Forest Service, a big piece of work which has just been completed, involves a complete change in the machinery of this branch of the Government as regards the handling of National Forests. As a result of the reorganization, the Forest Service force at the headquarters in Washington has been reduced to the general administrative officers and to those who are conducting the investigative work of the Service outside of the National Forests.

The six districts, which have the same boundaries as the old inspection districts, will be in charge of six district foresters, with headquarters in Denver, Colorado; Ogden, Utah; Albuquerque, New Mexico; Missoula, Montana; San Francisco, California; and Portland, Oregon. The fifth district includes California and southwestern Nevada, headquarters San Francisco, California. For nearly a year preparation for the district organization has been going quietly but steadily forward. This has thrown an additional burden upon a force already excessively busy, but the work has been accomplished and accomplished on time. The transition has been particularly remarkable because it involved no material delay in the transaction of National Forest business while the change was going on.

"The Forest Service," said Gifford Pinchot, United States Forester, "is putting a large part of its work into the field where it belongs. . . . The district organization will mean a much freer use of the National Forests by the people, because there will not be the delay inevitable so long as National Forest business is handled from Washington. It is also going to mean that there will always be officers with the power to make decisions, near the ground, who can look into the facts for themselves, wherever necessary, without having to decide them at long range. I believe every man who uses the National Forests will realize these things inside of six months."

**RECEIPTS FROM THE
NATIONAL FORESTS.**

The estimated receipts for the National Forests for the present fiscal year of 1908-1909 will be approximately \$2,000,000, making the receipts from each of the six districts range from \$275,000 to \$350,000. A national bank in each district is

designated by the Forest Service to handle all moneys received from timber sales, permits for stock grazing, and for special uses of various resources in the National Forests. This will mean that all the receipts of the Forest Service in the future will be deposited to the credit of the treasurer of the United States and made available for circulation in the part of the country from which it is derived, instead of being forwarded to the treasurer at Washington.

STATE REVENUE FROM
NATIONAL FORESTS
INCREASED.

In addition to the benefits secured by fire protection and by regulations which control the use of timberland and range so as to insure permanent supplies for local wants, the States having National Forests now receive, under the new Agricultural Appropriation Bill, 25 per cent of the gross proceeds derived from the sale of National Forest resources. This amount, according to law, goes to offset any losses to the States through withdrawal of forest areas from taxation, and is devoted to public roads and schools.

Several years ago complaints were made that the withdrawal of timberlands for forest purposes reduced the taxable areas of the States in which withdrawals were made. The Forest Service, quick to see the justice of these complaints, recommended at first that 10 per cent, and later that 25 per cent, of the gross proceeds from the National Forests should be paid to the States. As a result, the States are assured of school and road funds, doubtless more certainly than they otherwise could have been, since the permanence of the forest resources is now secured by conservative management. Had the forests never been established, their resources would undoubtedly have been exhausted by hasty and improvident methods of exploitation, leaving the land wasted and unproductive.

The amounts to go to each State or Territory from the receipts of the fiscal year which ended June 30, 1908, are: Alaska, \$2,684.78; Arizona, \$42,610.44; Arkansas, \$313.68; California, \$52,437.78; Colorado, \$50,955.67; Idaho, \$56,307.84; Kansas, \$643.55; Montana, \$75,807.41; Nebraska, \$2,349.77; Nevada, \$4,577.95; New Mexico, \$25,464.12; Oklahoma, \$554.48; Oregon, \$32,313.52; South Dakota, \$8,456.60; Utah, \$32,151.02 (including Uinta Indian refund of \$5,348.07); Washington, \$18,032.79; and Wyoming, \$41,402.38.

TO ESTABLISH EXPERIMENT STATIONS IN NATIONAL FORESTS IN THE WEST.

Forest experiment stations will soon be established in a number of the National Forest States of the West, according to plans which have just been completed by the United States Forest Service.

These new stations are expected to do the same for the development of American forests as agricultural experiment stations have done for the improvement of the country's farms.

As a first step in this work an experiment station has already been established on the Coconino National Forest in the Southwest, with headquarters at Flagstaff, Arizona. Stations in other National Forests will be established later, and it is the intention ultimately to have at least one experiment station in each of the silvicultural regions of the West.

One of the most important parts of the work of the new experiment stations will be the maintenance of model forests typical of the region. These areas will furnish the most valuable and instructive object-lessons for the public in general, for professional foresters, lumbermen, and owners of forest land, and especially to the technical and administrative officers of the National Forests.

In the recently established station on the Coconino National Forest one of the first problems to be taken up will be the study of the reproduction of western yellow pine and the causes of its success and failure. A solution of this problem of how to obtain satisfactory reproduction of the yellow pine is of the greatest practical importance to the Southwest, since the yellow pine, which is by far the most valuable tree there, is in many cases not forming a satisfactory second growth. The study will be carried on largely by means of sample plots, which will be laid out for future observation to determine the effects of grazing, of the different methods of cutting and disposing of the brush, and of other factors on the success of reproduction.

Other studies which will be taken up soon are a study of the light requirements of different species at different altitudes and the construction of a scale of tolerance which will be based on the actual measurements of the light intensity, and not only, as has hitherto been the case, on general observations alone; the taking of meteorological observations to determine the effect of the forest upon temperature, humidity, melting of snow, wind velocity, etc.; a study of the relative value of the germinating power of seeds from trees of different sizes, ages, and degrees of health; and similar studies of value to the region. A complete collection of the flora of the forest will be made to form a herbarium, which will be kept on the forest and will be available for reference at any time.

**THE FOREST SERVICE
ESTABLISHES FIELD
HEADQUARTERS IN
SAN FRANCISCO.**

For three or four years past administration of the National Forests from Field headquarters has been anticipated and the whole trend of the organization has been toward it. The first definite step was taken July 1, 1907, when six inspection districts were started and inspectors permanently assigned to each. This gave the technical men an opportunity to become acquainted with the supervisors and rangers and users and—what was fully as important—convinced the men on the forests, the lumbermen and the stockmen, that these inspectors were practical men who knew their business. After a year and a half this organization proved inadequate. Systematized inspection meant increased efficiency in the field, but it also meant vastly increased routine business to be handled by the Washington office. One good result of it was the training of both the ranger and the inspector.

Plans to establish district headquarters were begun about July 1st, and on December 1st the new organization went into effect. The offices for the Fifth District, California and a portion of western Nevada, are in the First National Bank Building in San Francisco. Mr. F. E. Olmsted, formerly chief inspector, is District Forester, with Mr. Coert DuBois, one of the inspectors, as Assistant District Forester. The organization of the district office follows closely that of the Washington office. Men in charge of the branches of operation—Grazing, Products, and Silviculture—in Washington direct the policy and exercise general control over similar lines of work in the district office. All business except that requiring departmental action is transacted in the district office,—accounts are audited and paid; receipts from grazing, the sale of timber, and the use of National forest land are deposited in the First National Bank of San Francisco and accounted for to the district fiscal agent; applications for classification of land under the Forest Homestead Act are made to the District Forester and examined under his direction and, if found to be agricultural, listed by him with the General Land Office. A corps of technical foresters, land examiners, expert lumbermen, miners, and engineers attached to the district office are available for assignment to any of the California forests to assist and advise the local officers.

The personnel of the new office is made up of men who have had long experience in service work in all parts of the West and in the Washington office. Mr. R. L. Fromme, in charge of operation, is a forest school graduate who, through his experience as supervisor of the Kaniksu National Forest, is well qualified to appreciate the difficulties of the supervisors in the

district and help them. His office is responsible for the organization and equipment of the ranger force, the patrol of the forests, and the construction of headquarters, roads, trails, and other permanent improvements; the occupancy of forest lands, changes in forest boundaries, the accounts office, and the maintenance of the district office.

Mr. John H. Hatton is in charge of the Office of Grazing. He has been an inspector in this district for some time and is thoroughly familiar with range conditions throughout the State. His assistant, Mr. M. B. Elliott, was formerly supervisor of the Tahoe National Forest. Besides the routine work of supervision of the use of forest range throughout the State, this office will co-operate with local livestock associations, the State Veterinarian's office, and the Bureau of Animal Industry in the enforcement of quarantine regulations; and will direct the work of exterminating coyotes, cougars, wild cats, and other animals destructive to stock.

The district organization will increase the opportunities for investigative work. Studies to increase the utilization of National forest timbers and find substitutes for those disappearing; the compilation of statistics on the lumber industry and timber-testing experiments in the Berkeley laboratory will be under the direction of Mr. L. E. Hunt, chief of the Office of Products, who has been in charge of similar work in California, Nevada, and Utah. In addition, the chief of the Office of Products will exercise general supervision over all timber-treating plants maintained by the service and will co-operate with private owners in preservative methods of treatment for the timbers used in the district.

Mr. G. M. Homans, who has been Chief of Management in the Washington office, is in charge of the office of Silviculture, which will supervise the sale and free use of timber on National forests, forest planting, and silvical studies. In addition to the timber-sale business, which in 1907 amounted to over \$100,000 in this district, this office is ready to give advice in the management of forest lands to owners throughout the State.

The operation of a business of this size entails considerable legal work. To handle this a law officer is attached to the district officer, who, besides approving contracts and bonds prepared in any of the branches and giving advice to those handling cases, will also assist the United States Attorney in the prosecution of criminal cases arising on the forests. Mr. E. A. Lane, a Californian, well versed in the mining and water-right laws of the State, is law officer for District No. 5. [F. E. O.]

GOVERNMENT CONTROL
OF WATER POWER.

The question of what kind of control the National Government should exercise over water power companies bids fair to become of very great importance in California. At present only a small fraction of the available water power of the State is utilized, although within the last two years surveys and estimates for further development have been undertaken on a very large scale. The utilization of water power, especially its future utilization, is of such vital importance to all the people that some restrictions for insuring a wise and fair use of it seem to be demanded. It will enter very largely into questions of transportation, lighting, heating, pumping, and innumerable other mechanical uses. The more it is developed the greater will be the saving in other natural resources, such as coal and wood.

The Forest Service is concerned with this matter because it expends money to protect the cover of the watersheds from destruction by fire, excessive cutting of timber, and overgrazing, thus assuring a steady flow of clean water; and it has direct charge of the government land necessary for reservoir sites, power-house sites, and rights of way for conduits and transmission lines. The configuration of this government land, moreover, gives the *fall*, without which any amount of water would be quite useless for power purposes.

On these grounds, therefore, the Forest Service believes that the power companies should pay to the people a reasonable return for value received whenever they make use of these natural resources belonging to all the people. The present policy, to which vigorous objection is made by some of the power companies, is to require the fullest possible utilization of water power opportunities, consideration of *local* industries, a contract involving a thirty- or forty-year lease of the land, and a charge of from two to ten cents per thousand kilowatt hours on the power developed.

The power companies have attempted, and may again attempt, to obtain such legislation as would give them absolute patent to the necessary lands, in which event they might be wholly removed from any government control.

[F. E. O.]

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